



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
LOCATION: Site Office/Conference Call DATE: May 12, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Grant Koster, CH2M Hill	Jeff Keiser, CH2M Hill
Greg Carli, CRA	Jodie Dembowski, CRA Services	Dan Nelson, CRA Services	Hassan Gilani, Inspec-Sol
Renee Pionk, CRA	Rick Hoekstra, CRA	Aaron Stadnyk, CRA	Pete Lewis, CRA Services

### Distribution:

All Parties listed above.	Scott Hutsell, CH2M Hill	Richard Gay, Weyerhaeuser	
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Signage, fire extinguishers, and applicable PPE in place.	CRA Services
2 b.	Two personnel decontamination areas set-up, one on south side of landfill and one north of the Site trailers.	
2 c.	Daily tailgate safety meeting are being conducted. No incidents have occurred to date.	





<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	Safety fence has been installed along east side of Site to delineate the work area.	CRA Services
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Mobilization of the trailer for use by U.S. EPA/MDNRE and a storage trailer to Site.	CRA Services
4 b.	Site activities were stopped Friday, May 7 and Tuesday, May 11 due to inclement weather.	
4 c.	MDOT silt fence materials arrived on-Site on Tuesday, May 11.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Installation of erosion and sedimentation controls.	CRA Services
5 b.	Cut-back of slopes for access to wetland and Wyoming Asphalt (owned by Aggregate Industries) property areas for removal of paper residuals.	
5 c.	Provide electricity to Site trailers.	
5 d.	Installation of water treatment system on land leased from Aggregate Industries.	
5 e.	CH2M Hill reported that Grant Koster or Jeff Keiser would be on-Site on a full time basis beginning Tuesday, May 18.	CH2M Hill
5 e.	<b>Upcoming Tasks:</b> Survey and placement of cut and fill stakes.	Subcontractor
5 f.	Test pit and probing for gas line on northeast and west side of the landfill. Inspec-Sol requested that CRA Services document the amount of groundwater seepage observed in the test pit locations.	CRA Services
5 g.	Grub tree stumps along slopes.	
5 h.	Set-up equipment decontamination pad.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNR:</b> None.	



Item	Description	Action By
6 c.	<b>CRA:</b> A letter requesting a variance for the specified silt fence was submitted to the U.S. EPA on Wednesday, May 12. According to the letter, due to a limited supply of the specified silt fence, an alternative silt fence (listed on the Qualified Materials List of the 2003 Michigan Department of Transportation (MDOT) Standard Specification for Construction) will be installed as the outer layer of silt fence and the specified silt fence will be installed as the inner layer of silt fence (closest to the landfill toe of slope and primary work area). The alternative silt fence will also comply with the Allegan County Soil Erosion and Sedimentation Control Ordinance.	Greg Carli
6 d.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	The MDNRE requested that a copy of the agenda format for the weekly meetings be sent. CRA will modify the weekly meeting email invitation and attach a copy of the agenda format for the weekly meetings.	Aaron Stadnyk
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: May 17, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



DRAFT

## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: May 19, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Dan Nelson, CRA	Jodie Dembowski, CRA Services	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Renee Pionk, CRA	Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol	
Aaron Stadnyk, CRA	Pete Lewis, CRA Services		

Distribution:

All Parties listed above.	Greg Carli, CRA		
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Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Site activities were stopped Thursday, May 13 due to inclement weather.	CRA Services
2 b.	Daily tailgate safety meeting are being conducted. No incidents or near losses have occurred to date.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	Safety fence has been installed along the asphalt property on the west side of Site to delineate the work area.	CRA Services
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Installation of alternative MDOT approved silt fence as outer layer.	CRA Services
4 b.	Set-up of stabilized construction entrance and equipment decontamination pad.	
4 c.	Grubbing and removal of tree stumps along slopes.	
4 d.	Test pit and probing for location of the gas line.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Complete installation of erosion and sedimentation controls and grubbing/removal of tree stumps.	CRA Services
5 b.	Cut-back of slopes on northeast and north side of landfill for access to wetland for removal of paper residuals.	
5 c.	Provide electricity to Site trailers.	
5 d.	Installation of water treatment system on land leased from Aggregate Industries.	
5 e.	Survey and placement of cut and fill stakes.	Subcontractor
5 e.	<b>Upcoming Tasks:</b> Cut-back of slopes and excavating to subgrade.	CRA Services
5 f.	Removal of paper residuals from wetland area on north side of landfill property.	
5 g.	Removal of tree stumps and grubbed material for off-Site disposal. Waste profile sent to Waste Management on Wednesday, May 19.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill requested that the U.S. EPA Field Representative be notified of minor field determined changes prior to implementation of the minor field changes. Major field changes to the RA design should be requested in writing.	CRA/CRA Services
6 b.	CH2M Hill requested clarification on the compaction requirements for project. CRA will provide clarification on the compaction requirements for the project via an email.	CRA Aaron Stadnyk
6 c.	CH2M Hill requested clarification on the methods for delineating excavations and the handling of water entering excavations. CRA Services responded that for excavations in the north wetland area, CRA Service anticipates limited water entering the excavation due to the shallow excavations occurring in this area (paper residuals approx 8-inches thick). CRA Services anticipates water entering the excavations on the asphalt property on the west side of the Site due to deep excavations occurring in this area (paper residuals approx 10-feet thick). CRA Services will manage water entering excavations as needed and will utilize the water treatment system.	CRA Services



Item	Description	Action By
6 d.	<b>MDNRE:</b> None.	
6 e.	<b>CRA:</b> Cut-and-fill figure - CRA is finalizing this figure to include grid tick marks to show spot elevations with regards to the subgrade plan. The previous cut-and-fill figure shown at the Pre-Construction meeting portrayed cut-and-fill sections by area. The updated cut-and-fill figure will be completed on Wednesday, May 19 and distributed via email.	Rick Hoekstra Aaron Stadnyk
6 f.	Soil Erosion and Sedimentation Control Plan - CRA will submit the plan to Allegan County for review on Friday, May 21.	Aaron Stadnyk
6 g.	Community Information Board (CIB) - Discussed information to include on the board. CRA will include phone numbers for specific CRA personnel. The U.S. EPA requested that the CIB include the U.S. EPA website link for the Site.	CRA
6 h.	CRA inquired regarding the status of the request for change to the QAPP to add a second laboratory (Cass Laboratories) to provide additional capacity to ensure the required turn-around-time (TAT) of 24-48 hours can be met for verification sampling. The U.S. EPA will follow up on the status for the request for change to the QAPP.	U.S. EPA
6 i.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	Cut-and-fill figure will be updated and distributed via email.	Rick Hoekstra Aaron Stadnyk
7 b.	CRA will provide clarification on the compaction requirements for the project via email.	CRA Aaron Stadnyk
7 c.	The U.S. EPA will follow up on the status for the request for change to the QAPP.	U.S. EPA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	Correction to May 12, 2010 Meeting Minutes, Item 5 e. CH2M Hill reported that Grant Koster or Susan Kear <del>Jeff Keiser</del> would be on-Site on a full time basis beginning Tuesday, May 18.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA

Date Issued: May 25, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: May 26, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Greg Carli, CRA	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Dan Nelson, CRA	Jodie Dembowski, CRA Services	Jeff Keiser, CH2M Hill	Hassan Gilani, Inspec-Sol
Renee Pionk, CRA	Rick Hoekstra, CRA	Pete Lewis, CRA Services	Scott Hutsell, CH2M Hill
Aaron Stadnyk, CRA	Pete Lewis, CRA Services		

### Distribution:

All Parties listed above.	Kristi Zakrzewski, MDNRE		
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Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Excavation and/or grading activities were not conducted on Friday, May 21 due to inclement weather.	CRA Services
2 b.	Daily tailgate safety meeting are being conducted.	
2 c.	One near loss has occurred over the past week. A short service employee was observed walking in the swing radius of an active excavator. A temporary stop work was issued on excavation. The Site Health and Safety Officer reviewed the near loss with the short service employee and discussed the proper procedures to follow while working around heavy equipment.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
2 d.	A second potential near loss involved a short service employee that may have experienced heat stress related symptoms. The employee visited a clinic for observation, at which time dehydration and heat stress were ruled out by a medical professional. The potential near loss was later attributed to stress and anxiety the employee may have experienced, while acclimatizing oneself with the project and construction activities.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	With the start of excavation activities, Site security is now present 24 hours a day on the weekends. Security will also be present during the day and night on Monday, May 31 (Memorial Day).	CRA Services
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Rough grading of northeastern and north slope.	CRA Services
4 b.	Excavation of paper residuals in northeastern, north and north-northwestern wetland areas.	
4 c.	Placement of excavated materials in low areas on northern and western top portions of landfill.	
4 d.	Assembly of water treatment system (95% complete).	
4 e.	Removal of tree stumps and wood chips for off-Site disposal.	
4 f.	Conduct preliminary compaction tests (see Item 6e).	Inspec-Sol
4 g.	Power supplied to Site trailers.	Subcontractor
4 h.	Surveyed and/or verification of cut-and-fill stakes.	Subcontractor
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Continue removal of paper residuals from wetland areas on northwest side of Site.	CRA Services
5 b.	Placement of excavated/graded material on top of landfill and compaction testing.	
5 c.	Rough grading of northwestern and southeastern slope areas.	
5 d.	Removal of tree stumps and wood chips for off-Site disposal.	
5 e.	Charge water treatment system carbon vessels with clean water source.	
5 f.	<b>Upcoming Tasks:</b> Removal of paper residuals from asphalt property.	
5 g.	Backfilling of wetland areas on north side of Site.	
5 h.	Operation of water treatment system to manage water that has collected in excavations.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA instructed CRA Services to install silt fence near the southwest corner of the Site that was previously not installed. The U.S EPA stressed the importance of silt fence for both anticipated and unanticipated erosion control.	CRA Services
6 b.	<b>MDNR:</b> None.	





Item	Description	Action By
6 c.	CRA: Emails distributing the updated cut-and-fill figure and the compaction requirements for the project were sent on Tuesday, May 25, 2010.	Aaron Stadnyk
6 d.	CRA will be finalizing the Community Information Board (CIB) on Wednesday, May 26 and will have the information mounted for display at the Site's south entrance.	CRA
6 e.	Compaction testing – the excavated material being placed on top of the landfill is a mixture of materials consisting of paper sludge, topsoil, other organics (grass/weeds), fly ash, and sand. The materials are mixed further by disking with agricultural equipment, to remove excess moisture. To ensure proper compaction of this mixture of material additional proctor tests are to be conducted on a representative sample of the excavated materials. These additional tests will more adequately verify compaction; Inspec-Sol will run additional Proctor tests on the mixture of materials and conduct preliminary compaction tests. Results of these new tests will be reported to the U.S. EPA.	Inspec-Sol/CRA
6 f.	CRA Services: None.	
7	<u><b>ACTION ITEMS</b></u>	
7 a.	Install silt fence at the southwest corner of the Site.	CRA Services
7 b.	The U.S. EPA will follow up on the status for the request for change to the QAPP.	U.S. EPA
7 c.	The results of the new Proctor/compaction tests will be reported to the U.S. EPA.	CRA
8	<u><b>ADMINISTRATIVE ISSUES</b></u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: June 1, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



DRAFT

**WEEKLY MEETING  
MINUTES**

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: June 2, 2010 TIME: 10:30 AM

## Participants:

Michael Berkoff, U.S. EPA	Greg Carli, CRA	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Kristi Zakrzewski, MDNRE	Jodie Dembowski, CRA Services	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Renee Pionk, CRA	Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol	Pete Lewis, CRA Services
Aaron Stadnyk, CRA			

## Distribution:

All Parties listed above.	Dan Nelson, CRA		
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Excavation and/or grading activities were not conducted on Wednesday, June 2 due to inclement weather.	CRA Services
2 b.	Daily tailgate safety meetings are being conducted. No incidents have occurred to-date.	
2 c.	One unsafe condition was reported for the entrance to the south decontamination station. The entrance to the south decontamination station was open and access was unrestricted. The condition was corrected by re-hooking the chain across the entrance.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	CRA is finalizing the Site sign and will send a copy of the sign via email to the U.S. EPA.	CRA Services
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Rough grading of southeastern slope area.	CRA Services
4 b.	Excavation of paper residuals in northwestern wetland areas.	
4 c.	Placement of excavated materials on northern and western top portions of landfill.	
4 d.	Removal of tree stumps and wood chips for off-Site disposal.	
4 e.	Conducted compaction tests based off of the most recent Proctor test results.	Inspec-Sol
4 f.	Surveyed and/or verification of cut-and-fill stakes, extent of waste excavation in wetland area, and limits of waste on south side of landfill.	Subcontractor
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Continue removal of paper residuals from wetland areas on northwest side of Site.	CRA Services
5 b.	Placement of excavated/graded material on top of landfill followed by compaction testing.	
5 c.	Rough grading of southeastern slope areas.	
5 d.	Removal of tree stumps and wood chips for off-Site disposal.	
5 e.	<b>Upcoming Tasks:</b> Removal of paper residuals from asphalt property.	
5 f.	Verification of soil remediation sampling.	
5 g.	Backfilling of wetland areas on north side of Site.	
5 h.	Operation of water treatment system to manage water that has collected in excavations.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA anticipates an answer on Wednesday, June 2 with regards to the request for change to the QAPP.	U.S. EPA
6 b.	CH2M Hill requested an explanation regarding CRA's proposal to not conduct test pits in the northeast and southeast areas where construction debris and perched leachate were previously encountered by RMT. CRA responded that the objectives of the design for the test pits are being researched and CRA will provide an explanation via email.	CRA
6 c.	CH2M Hill inquired as to whether there were any concerns for capacity issues based on additional material excavated from the wetland areas. CRA responded that they will continue to evaluate capacity and will be receiving survey data with regards to extent of excavation in the northeast and north wetland areas.	CRA
6 d.	CH2M Hill inquired if there were any changes to the assumptions for the slope stability calculations based on the compaction testing and material placement thus far completed. CRA responded that they did not foresee any major changes.	



Item	Description	Action By
6 e.	CH2M Hill inquired as to dewatering operations with regards to the toe of slope. CRA Services responded that a 4-inch dry pump will be used which will allow water collection while excavating. If needed a sump will be constructed and installed.	
6 f.	<b>MDNRE:</b> The MDNRE requested an update on the soil erosion and sedimentation control (SESC) application that was sent to Allegan County. CRA received a phone call from Allegan County that the application was being reviewed. CRA will follow-up on the status of the review.	CRA
6 g.	<b>CRA:</b> Project remains on-schedule despite several days of no construction activity due to inclement weather (heavy rains).	
6 h.	CRA will be sending the Site sign for printing and mounting this week.	CRA
6 i.	Compaction Testing - An additional Proctor test was conducted for a mixture of representative materials (paper residuals, fly ash, organic materials, top soil, and sand). Based on these Proctor results, all compaction tests have passed. An additional Proctor test is also being conducted on the sand present on-Site. The two additional Proctor tests and compaction results will be transmitted to the U.S. EPA.	Inspec-Sol/CR A
6 j.	Construction debris uncovered near the middle of the southeastern slope area will be buried in a 10-foot lift fill area.	CRA Services
6 k.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	U.S. EPA will follow up on the status for the request for change to the QAPP.	U.S. EPA
7 b.	CRA will follow up with Allegan County regarding review of the SESC application.	CRA
7 c.	CRA will provide an explanation for not conducting test pits of previously identified construction debris and leachate.	CRA
7 d.	The results of the new Proctor/compaction tests will be reported to U.S. EPA.	CRA
7 e.	CRA will provide an update with regard to capacity once they have received and reviewed the survey information for extent of excavation in the north and northeast wetland areas.	CRA
7 f.	CRA will send the Site sign for printing and mounting.	CRA
7 g.	CRA Services will bury uncovered construction debris in a 10-foot lift fill area.	CRA Services
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: June 8, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: June 9, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Grant Koster, CH2M Hill	Scott Hutsell, CH2M Hill
Jeff Keiser, CH2M Hill	Greg Carli, CRA	Jodie Dembowski, CRA Services	Tom Kalinowski, Inspec-Sol
Renee Pionk, CRA	Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol	Dan Nelson, CRA
Pete Lewis, CRA Services	Aaron Stadnyk, CRA		

### Distribution:

All Parties listed above.	Richard Gay, Weyerhaeuser		
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Excavation and/or grading activities were not conducted on Wednesday June 9 due to wet site conditions.	CRA Services
2 b.	Daily tailgate safety meeting are being conducted.	
2 c.	Particulate levels measured during air monitoring since the beginning of excavation work have been below the risk screening level and in compliance with the particulate standard.	CRA



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Cut-down and rough grading of landfill slopes along north and west MDNRE property boundaries.	CRA Services
4 b.	Excavation of paper residuals in northwestern wetland areas.	
4 c.	Placement of excavated materials on northern, eastern, and western top portions of landfill.	
4 d.	Completed removal of tree stumps and wood chips for off-Site disposal.	
4 e.	Set-up of dewatering equipment (pump and hoses). Begin dewatering of excavation areas.	
4 f.	Delivery of general fill. Backfilling of wetland areas on northeast side of Site.	
4 g.	Continue to conduct compaction tests.	Inspec-Sol
4 h.	Surveyed and/or verification of cut-and-fill stakes.	Subcontractor
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> CRA Services recommend temporary shutdown of Site construction activities to allow Site to dry out from several rain events that have occurred over the past few weeks. Tentative date to resume construction activities is Thursday, June 17. During the temporary shutdown, the contractor will have an operator and laborer on-Site for silt fence inspection and maintenance and for other miscellaneous maintenance activities. CRA Services indicated that construction activities are slightly ahead of schedule.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Removal of paper residuals from asphalt property.	
5 c.	Verification soil sampling on the asphalt plant property.	
5 d.	Backfilling of wetland areas on north side of Site.	
5 e.	Operation of water treatment system to manage water that has been collected from the excavated wetland areas.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA expects an answer this week with regards to the QAPP amendment.	U.S. EPA
6 b.	CH2M Hill inquired as to how survey points are checked and the need for re-staking along the eastern slope area of the landfill. CRA Services responded that the survey subcontractor checks proposed survey locations received from CRA Services and alerts CRA Services to any discrepancies. A portion of the east slope was re-staked due to a discrepancy in a contour from the original design drawing versus the cut-and-fill drawing developed after the start of construction activities. The contour line discrepancy is minor and does not change the overall design of the landfill cap.	



Item	Description	Action By
6 c.	CH2M Hill inquired as to the visual identification of the "gray pieces" observed within the peat layer in the northwest wetland area. CRA responded that a sample of the material observed will be sent to the lab for PCB analysis. The results will be reviewed and an email sent to the U.S. EPA with a status update.	CRA
6 d.	CH2M Hill inquired as to the dewatering operations with regards to the toe of slope. CRA Services responded that a 4-inch dry pump will be used, which will allow water collection during excavation. If needed a sump will be constructed/installed.	
6 e.	<b>MDNRE:</b> The MDNRE inquired as to the protocol for clarifications sent to the U.S. EPA. CRA responded that request for clarifications are sent to the U.S. EPA and that CH2M Hill and MDNRE are copied on the request. The U.S. EPA responded that a response to a request for clarification is sent to Weyerhaeuser.	
6 f.	<b>CRA:</b> Landfill capacity - the volume of off-Site material excavated, based on recent survey data, was calculated as 1038 cubic yards. This calculated volume is approximately 300 cubic yards more than the engineering estimate. The design includes a contingency for extra capacity in the amount of approximately 4,000 cubic yards for off-Site excavation material. The U.S. EPA requested that this information be transmitted in the monthly progress report and that the total volume excavated from off-Site areas should be formally documented after excavating is completed.	CRA
6 g.	Slope stability assumptions - CRA does not foresee any major changes with regards to the assumptions for the slope stability calculations, and the design analysis is still valid.	
6 h.	Geotechnical Data - Additional Proctor test was conducted for a mixture of materials present (paper residuals, fly ash, organic materials, top soil, and sand) and compaction tests passed that were conducted using the new Proctor results. An additional Proctor test is also being conducted on the sand present on-Site. CRA is reviewing the data and the two additional Proctor tests and compaction results will be transmitted to the U.S. EPA.	Inspec-Sol/ CRA
6 i.	SESC Application - CRA has left messages with Allegan County regarding the soil erosion and sedimentation control (SESC) application and will continue to follow-up on the status of the review. The MDNRE requested that a copy of the final approved SESC application package be submitted to the MDNRE for their files.	CRA
6 j.	Geotextile Material - CRA will submit a request for clarification to the specifications regarding the 8 oz. geotextile material. The 8 oz. geotextile material is shown on Drawing C-02; however, material properties for the 8 oz. geotextile were not included as part of the approved design specifications.	CRA
6 k.	<b>CRA Services:</b> Site construction activities will be temporarily shutdown to allow the Site to dry out from several rain events that have occurred over the past few weeks. Tentative date to resume construction activities is Thursday, June 17.	



Item	Description	Action By
7	<u><b>ACTION ITEMS</b></u>	
7 a.	The U.S. EPA will follow-up on the status of the amended QAPP review.	U.S. EPA
7 b.	CRA will follow up with Allegan County regarding review of the SESC application and will provide the MDNRE with a copy of the final approved application package.	CRA
7 c.	CRA will provide explanation for not conducting test pits in the areas of previously identified construction debris.	CRA
7 d.	The results of the new Proctor/compaction tests will be reported to the U.S. EPA.	CRA
7 e.	CRA will submit a sample of the observed "gray pieces" and surrounding peat material for laboratory analysis of PCBs and will update the U.S. EPA via an email.	CRA
8	<u><b>ADMINISTRATIVE ISSUES</b></u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: June 15, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.





## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: June 16, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Greg Carli, CRA	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Kristi Zakrzewski, MDNRE	Jodie Dembowske, CRA Services	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Renee Pionk, CRA	Rick Hoekstra, CRA	Aaron Stadnyk, CRA	Pete Lewis, CRA Services

Distribution:

All Parties listed above.	Hassan Gilani, Inspec-Sol	Dan Nelson, CRA	
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	The Site has been shutdown due to wet site conditions since Wednesday, June 9. A temporary crew is on-Site for silt fence inspection and maintenance and for other miscellaneous maintenance activities.	CRA Services
2 b.	Daily tailgate safety meetings are being conducted.	
2 c.	An unsafe condition was reported for some drug paraphernalia discovered near the water treatment system. The police were called and they removed the drug paraphernalia from the Site.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Inspection and repair of silt fence. No major erosion issues to report.	CRA Services
4 b.	Transportation of one tanker of treated water to the Plainwell WWTP.	
4 c.	Limited disking of placed material to promote drying.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> The Site received approximately 2-inches of rain on Tuesday night (June 15). Weather forecast for remainder of week is positive. CRA Services plans to perform limited disking of placed material to promote drying. Continue inspection of silt fence and repair, if needed. Tentative date to resume construction activities is Monday, June 21.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Removal of paper residuals from asphalt property.	
5 c.	Verification of soil remediation sampling.	
5 d.	Backfilling of wetland areas on north side of Site.	
5 e.	Operation of water treatment system to manage water that has collected in excavations.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA indicated that a response with regards to the request for change to the QAPP would be sent to Weyerhaeuser on Thursday June 17.	U.S. EPA
6 b.	The U.S. EPA requested a conference call with Weyerhaeuser to discuss how the wetlands relate to the river for work to be conducted under OU-5	Weyerhaeuser/ CRA
6 c.	<b>MDNRE:</b> The MDNRE requested the back-up information/calculations for the asphalt property verification sampling grid, and also requested that future memos/submittals include all applicable calculations/information.	CRA
6 d.	<b>CRA:</b> An email up-date was sent to the U.S. EPA on Monday June 14 regarding the "small gray pieces" observed within the peat layer on in the northwest wetland area. Based on analytical results, material observed containing small gray pieces is most likely paper residuals and will be removed from the wetland areas, when encountered.	
6 e.	The geotechnical data, which included two additional Proctor tests and compaction results, were transmitted to EPA/CH2M Hill as attachments to the monthly progress report.	
6 f.	CRA is assessing the technical reasoning behind conducting test pits of previously identified construction debris and leachate to determine whether or not it is necessary to perform these actions.	CRA
6 g.	<b>CRA Services:</b> Tentative date to resume construction activities is Monday June 21.	



Item	Description	Action By
7	<u>ACTION ITEMS</u>	
7 a.	The U.S. EPA will follow up on the status for the request for change to the QAPP.	U.S. EPA
7 b.	CRA will follow up with Allegan County regarding review of the SESC application and will provide the MDNRE with a copy of the final approved application package.	CRA
7 c.	CRA will provide explanation for not conducting test pits of previously identified construction debris and leachate.	CRA
7 d.	CRA will provide the back-up information/calculations for the asphalt property verification sampling grid.	CRA
8	<u>ADMINISTRATIVE ISSUES</u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: June 21, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: June 23, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Grant Koster, CH2M Hill	Scott Hutsell, CH2M Hill
Renee Pionk, CRA	Jodie Dembowske, CRA Services	Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol
Aaron Stadnyk, CRA	Dan Nelson, CRA		

Distribution:

All Parties listed above.	Greg Carli, CRA	Richard Gay, Weyerhaeuser	Pete Lewis, CRA Services
Jeff Keiser, CH2M Hill			

Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Limited Site work occurred on Thursday, 6/17 and Friday 6/18. The Site received approximately 1-inch of rain on Monday night 6/21 and 1-inch Wednesday morning 6/23. As of Tuesday 6/22 only limited Site work is occurring (i.e. silt fence inspection and repair, if needed) due to wet Site conditions.	CRA Services
2 b.	Daily tailgate safety meeting are being conducted.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
2 c.	An unsafe condition was reported for rebar observed in the path of the Site vehicle (mule) while traversing across the Site. Upon observing the rebar, the mule was stopped and the rebar removed, thus preventing future equipment damage or personnel slip/trip/falls.	
2 c.	A second unsafe condition/stop work authority was reported for a hydraulic oil spill that occurred while a subcontractor mechanic was conducting routine servicing and annual OSHA inspection of the excavator. The mechanic failed to perform all the steps required when bleeding off or draining the hydraulic fluid filter. A majority of the oil was captured in the pan and the remaining oil (approximately 5 quarts) sprayed up on the side of the machine and dripped onto the gravel Site access road. Absorption pads were immediately applied to the spill. The mechanic was wearing proper PPE and no personal exposure or injury resulted from the hydraulic oil spill. The impacted soil (gravel) was removed and placed into the landfill.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Limited disking of placed material to promote drying (6/17 and 6/18)	CRA Services
4 b.	Removal of soil/paper residual "dams" in north wetland area resulting in approximately 50 cy of additional material (350 cy of additional material excavated to date).	
4 c.	Backfilling activities in wetland areas on north-northeast side of Site.	
4 d.	Dewatering of excavations and operation of water treatment system (approximately 20,000 gallons of water treated).	
4 e.	Installed approximately 100 feet of additional silt fence on MDNRE property, which had been damaged by recent storms.	
4 f.	Surveyors on-Site to verify/replace grade stakes and extent of excavation areas on the northwest side of the Site not previously surveyed.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> The Site has received approximately 2-inches of rain since the morning of Wednesday 6/23. Excavation activities will not occur this week. Depending on Site conditions, Site work may include cut-down of the slope near the southwest corner for a ramp to access the asphalt property and dewatering.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Removal of paper residuals from asphalt property.	
5 c.	Verification of soil remediation sampling.	
5 d.	Backfilling of wetland areas on north-northwest side of Site.	
5 e.	Operation of water treatment system to manage water that has collected in excavations.	



Item	Description	Action By
6	<b><u>PROJECT ISSUES</u></b>	
6 a.	U.S. EPA: None.	
6 c.	MDNRE: The MDNRE requested clarification on the areas calculated for the VSR sampling plans submitted and requested that the area calculations be broken down into floor area and sidewall area.	CRA
6 d.	CRA: CRA submitted a response to not conduct test pits of previously identified construction debris and leachate on Tuesday 6/22. The U.S. EPA requested further discussion with the CRA Project Manager (Greg Carli) regarding the response.	CRA/U.S. EPA
6 g.	CRA Services: Excavation activities will not occur this week due to wet Site conditions.	
7	<b><u>ACTION ITEMS</u></b>	
7 b.	CRA will follow up with Allegan County regarding review of the SESC application and will provide the MDNRE with a copy of the final approved application package. (Note several phone messages have been left by CRA).	CRA
7 c.	CRA will contact the U.S. EPA to discuss CRA's response for not conducting test pits of previously identified construction debris and leachate.	CRA
7 d.	CRA will provide clarification with regards to the areas calculated for the VSR sampling plans submitted.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: June 29, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: June 30, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Hassan Gilani, Inspec-Sol	Jodie Dembowske, CRA Services	Greg Carli, CRA	Pete Lewis, CRA Services
Renee Pionk, CRA	Rick Hoekstra, CRA	Dan Nelson, CRA	Aaron Stadnyk, CRA

### Distribution:

All Parties listed above.	Scott Hutsell, CH2M Hill	Jeff Keiser, CH2M Hill	
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Limited Site work occurred on Thursday 6/24 and Friday 6/25 due to wet Site conditions.	CRA Services
2 b.	Daily tailgate safety meeting are being conducted.	
2 c.	An unsafe condition was reported for rebar observed within the path of equipment or personnel.	
2 d.	An unsafe condition was reported for a swarm of bees that flew across the Site.	



Item	Description	Action By
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
4	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Limited disking of placed material to promote drying (6/17 and 6/18)	CRA Services
4 b.	Removal of grayish-colored soil material on north side of wetland areas that appeared to have run-onto areas previously not excavated (approximately 121 cubic yards).	
4 c.	Removal of paper residuals from MDNRE property.	
4 d.	Backfilling activities in wetland areas on north side of Site.	
4 e.	Dewatering of excavations and operation of water treatment system (approximately 19,500 gallons of water treated).	
4 f.	Collection of VSR samples on MDNRE property.	
5	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Inner silt fence installation on north side of Site; off-Site disposal of treated water; backfilling in north wetland areas; compaction testing; and unloading of liner and geocomposite material (expected to arrive this week).	CRA Services
5 b.	<b>Upcoming Tasks:</b> Removal of paper residuals from Asphalt Plant property.	
5 c.	Verification of soil remediation sampling.	
5 d.	Backfilling of wetland areas on northwest side of Site.	
5 e.	Operation of water treatment system to manage water that has collected in excavations.	
6	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> None.	
6 c.	<b>CRA:</b> Conducting test pits of previously identified construction debris and leachate management was discussed. The U.S. EPA requested that additional clarification is needed with regards to the affect of leachate and slope stability with regards to not conducting tests pits and subsequent leachate management. The U.S. EPA indicated that they would consider alternatives to managing perched leachate (i.e. temporary wells).	CRA/U.S. EPA
6 e.	<b>CRA Services:</b> CRA Services indicated that Saturday work may occur during July in order for the project to get back on schedule. The decision for Saturday work will be made by Thursday afternoon of the work week.	





Item	Description	Action By
7	<u><b>ACTION ITEMS</b></u>	
7 a.	CRA will follow up with Allegan County regarding review of the SESC application and will provide the MDNRE with a copy of the final approved application package. (Note several phone messages have been left by CRA).	CRA
7 b.	CRA will review the test pit information and provide an alternative for perched leachate management.	CRA
7 c.	CRA will provide clarification with regards to the areas calculated and number of floor and sidewall samples for the VSR sampling plans submitted.	CRA
8	<u><b>ADMINISTRATIVE ISSUES</b></u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: July 6, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: July 7, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Grant Koster, CH2M Hill
Richard Gay, Weyerhaeuser	Jodie Dembowske, CRA Services	Greg Carli, CRA	Renee Pionk, CRA
Rick Hoekstra, CRA	Dan Nelson, CRA	Aaron Stadnyk, CRA	

Distribution:

All Parties listed above.	Scott Hutsell, CH2M Hill	Pete Lewis, CRA Services	Hassan Gilani, Inspec-Sol
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	A stop work authority was reported for the Off-road articulating dump truck. The bed flipped on it's side while proceeding to transport excavated material away from excavator. The truck bed was flipped back up. No personnel injuries; however, a tire was damaged.	
2 c.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Approximately 100 feet of specified silt fence installed near northeast wetland areas that have been backfilled.	CRA Services
4 b.	Delivery of liner, geocomposite material, specified silt fence, and geotextile material.	
4 c.	Cut-down and grading of slopes along eastern and northern MDNRE property boundaries.	
4 d.	Backfilling activities in wetland areas on north and northwest side of Site.	
4 e.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to the City of Plainwell Water Renewal Plant.	
4 f.	Removal of surface debris from Asphalt Plant property.	
4 g.	Excavation of paper residuals from MDNRE property.	
4 h.	Collection of verification soil samples from MDNRE property.	
4 i.	Surveyors on-Site to verify grade stakes and to survey MDNRE excavation area and verification sample locations.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Off-Site disposal of treated water; backfilling in northwest wetland areas; compaction testing; grading of slopes along western and northern MDNRE property boundaries; excavate paper residuals from Asphalt Plant property.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Continue removal of paper residuals from Asphalt Plant property.	
5 c.	Verification soil sampling.	
5 d.	Backfilling of wetland areas on northwest side of Site.	
5 e.	Operation of water treatment system to manage water that has collected in excavations.	
5 f.	Placement of topsoil on north wetland areas.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA inquired as to whether samples were collected of the pre-treatment water. CRA responded that samples are collected of the post-treated water, but not for the pre-treated water.	
6 b.	CH2M Hill inquired as to whether there were any issues associated with the most recent compaction testing results. CRA responded that by using the additional Proctor tests (i.e., mix material, on-Site sand), there are no issues with the compaction test results.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
6 c.	<b>MDNRE:</b> The MDNRE inquired as to the storage of the liner material. CRA Services responded that the manufacturer indicated that temporary outdoor storage of the material would be adequate. The MDNRE and the U.S. EPA recommended, based on past experience, that the material be covered while being stored. CRA Services will cover the liner material with a tarp.	CRA Services
6 d.	<b>CRA:</b> CRA discussed alternatives to conducting tests for managing perched leachate. CRA is proposing to install several temporary wells for leachate collection. The leachate will be pumped out periodically, as needed. CRA will submit a letter to the U.S. EPA detailing the temporary well alternative.	CRA
6 e.	CRA spoke with Allegan County regarding the SESC application. Allegan County indicated that a permit was not required because of the CERCLA exemption. CRA will contact Allegan County to provide a letter stating that a permit is not required.	CRA
6 f.	<b>CRA Services:</b> CRA Services estimates that it will take approximately two weeks to excavate the asphalt area.	
7	<b><u>ACTION ITEMS</u></b>	
7 b.	CRA will follow up with Allegan County to request a letter indicating that a permit is not required for the SESC application.	CRA
7 c.	CRA will provide a letter to the U.S. EPA detailing the temporary well alternative for perched leachate management.	CRA
7 d.	CRA Services will cover the stored liner material with a tarp.	CRA Services
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	The U.S. EPA requested that the next weekly call be moved to Thursday, July 15, 2010 to accommodate vacation schedules.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: July 13, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: July 15, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Jeff Keiser, CH2M Hill	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser
Kristi Zakrzewski, MDNRE	Jodie Dembowske, CRA Services	Hassan Gilani, Inspec-Sol	Aaron Stadnyk, CRA
Renee Pionk, CRA	Rick Hoekstra, CRA		

Distribution:

All Parties listed above.	Scott Hutsell, CH2M Hill	Pete Lewis, CRA Services	Greg Carli, CRA
Dan Nelson, CRA			

Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	An unsafe condition was reported for a wasp nest discovered in front-end loader cab.	
2 c.	An unsafe condition was reported for soft Site conditions in wetland areas on asphalt property where employee became temporarily stuck.	
2 d.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Conducted compaction testing.	CRA Services
4 b.	Cut-down and grading of slopes along eastern and northern MDNRE property boundaries and along the southeast and southwest corners of the landfill.	
4 c.	Backfilling activities in wetland areas on northwest side of Site.	
4 d.	Dewatering of excavations and operation of water treatment system. Disposal of treated water to the City of Plainwell Water Renewal Plant.	
4 e.	Delineation of western extent of paper residuals from along asphalt property.	
4 f.	Collection of VSR samples from asphalt property.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Off-Site disposal of treated water; cut-down of slope at southwest corner of landfill; continue excavating paper residuals from asphalt property; collect verification soil samples; backfill northern area of asphalt property.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Continue removal of paper residuals from asphalt plant property.	
5 c.	Verification of soil remediation sampling.	
5 d.	Backfilling of asphalt plant property.	
5 e.	Operation of water treatment system to manage water that has been collected in excavations.	
5 f.	Placement of topsoil on north wetland areas.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA provided preliminary comments regarding CRA's proposed alternative (transmitted via letter on July 8, 2010) to install extraction wells in lieu of conducting test pits to manage perched leachate. The U.S. EPA indicated that test pits may still be needed if it is found that extraction wells were not viable. In addition, more than four extraction wells may be needed to manage perched leachate depending on Site conditions and well performance. The U.S. EPA indicated that a formal response would be provided.	U.S. EPA
6 b.	CH2M Hill inquired as to whether CRA Services would be excavating in 10-foot trenches for excavations approaching 10-feet in depth near the toe of the landfill slope. CRA Services indicated that excavations approaching 10-feet in depth would be excavated in 10-foot wide trenches and that a geotechnical engineer would be present during portions of the work to assist with field adjustments, if needed.	



Item	Description	Action By
6 c.	<b>MDNRE:</b> The MDNRE is planning to be present on Site for a portion of work involving 10-foot cuts near the toe of the landfill slope on the western side of the landfill.	
6 d.	<b>CRA:</b> Preliminary verification soil sampling results have been received for the first set of samples collected from the asphalt plant property. PCBs were detected below criteria. Methylene chloride was detected in the soil samples, but was also detected in the laboratory method blank sample. The final results will be included with the monthly progress report.	
6 e.	An interval of white material and paper residuals are present within approximately 12-feet of the well house on the asphalt plant property at a depth of approximately 7-feet below ground surface. CRA will attempt to obtain the well logs for the well located on the asphalt property and has scheduled a private utility locate to mark underground utilities and pipes in the area of the well house.	
6 f.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 b.	CRA will follow up with Allegan County to request a letter indicating that a permit is not required for the SESC application.	CRA
7 c.	The U.S. EPA will provide a formal response to CRA's July 8, 2010 letter detailing the temporary well alternative for perched leachate management.	U.S. EPA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: July 20, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: July 21, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Scott Hutsell, CH2M Hill	Sarah Conkle, CH2M Hill	Kristi Zakrzewski, MDNRE
Richard Gay, Weyerhaeuser	Jodie Dembowske, CRA Services	Hassan Gilani, Inspec-Sol	Aaron Stadnyk, CRA
Renee Pionk, CRA	Dan Nelson, CRA	Greg Carli, CRA	

### Distribution:

All Parties listed above.	Grant Koster, CH2M Hill	Pete Lewis, CRA Services	Rick Hoekstra, CRA
Jeff Keiser, CH2M Hill			

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	A near loss was reported for a small paper-sized cut received by an employee when attempting to tie off an uncovered phone line.	
2 c.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	





<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Grading and/or cut-down of slopes along northern MDNRE property boundary and along southwestern slope of landfill.	CRA Services
4 b.	Backfilled excavation area near northern boundary of asphalt property.	
4 c.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to the City of Plainwell Water Renewal Plant.	
4 d.	Completed delineation of western extent of paper residuals along Asphalt Plant property. The intent of delineating the western extent of paper residuals was to assist the contractor in being able to better manage water which infiltrates into excavation areas.	
4 e.	Removal of paper residuals from northern boundary of Asphalt Plant property and western portions of Asphalt Plant property. Also removal of overburden and paper residuals from southwest corner of Asphalt Plant property progressing north along the toe of slope (excavation near toe of slope is approximately 8-feet below ground surface).	
4 f.	Collection of verification soil samples from Asphalt Plant property. In addition, trip blank samples were submitted for analysis for verification of previous detections of methylene chloride.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Dewatering of excavation areas and off-Site disposal of treated water; cut-down of slope at southwest corner of landfill; placement of topsoil on backfilled wetland areas; backfill northern area of asphalt property.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Installation of temporary leachate extraction wells.	
5 c.	Continue removal of paper residuals from asphalt property.	
5 d.	Verification of soil remediation sampling.	
5 e.	Backfilling of Asphalt Plant property.	
5 f.	Operation of water treatment system to manage water that has collected in excavations.	



6	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill inquired as to whether CRA Services should implement the trenching excavation plan since excavation adjacent to the toe of the slope is approximately 8-foot in depth. CRA responded that trenching excavation plan near the toe of the slope includes safety factors and is based on the initial height of the landfill slopes, which have been substantially cut-down. Therefore, the trenching excavation plan will be implemented as the depth of excavation reaches 10-feet. Between 8 and 10-feet below ground surface, CRA Services will be in direct consultation with the Sr. Geotechnical Engineer. The Sr. Geotechnical Engineer will also visit the Site as the excavation progresses to a depth of 10-ft below ground surface.	U.S. EPA
6 b.	<b>MDNRE:</b> None.	
6 c.	<b>CRA:</b> CRA inquired as to comments the U.S. EPA had with regards to CRA's proposed alternative to install extraction wells in lieu of conducting test pits to manage perched leachate. The U.S. EPA responded that a comment letter would be provided today and reiterated that the process of installing extraction wells will begin at four wells and based on the observations of the first wells, additional wells may be required. Also, U.S. EPA stated that test pits remain as a method to manage perched leachate, pending the data generated from the collection of leachate from the extraction wells.	
6 d.	CRA stated that during excavation activities in the southwest corner of the Asphalt Plant property, a small seam of grayish-blue material was observed just below the asphalt layer and appears to consist of silt, rather than the observed consistency of the previously excavated paper residuals. It is not clear whether this material is paper residuals and may be cement wash from historic operations conducted by a nearby cement company (based on conversations with a representative of Wyoming Asphalt). CRA has collected a biased sample of this material for analysis of PCBs.	
6 e.	1 to 2-inch seams of material resembling paper residuals were also observed in the northeast corner of the Asphalt Plant property adjacent to the asphalt company's haul road. Due to the proximity of the observed materials to the haul road, CRA is planning to collect a biased sample of the observed material for PCB analysis to verify if results are below criteria. The U.S. EPA indicated that the ROD calls for visual excavation of paper residuals. CRA indicated that the make-up of the material would be reviewed along with analytical results.	
6 f.	<b>CRA Services:</b> None.	



7	<u><b>ACTION ITEMS</b></u>	
7 b.	CRA will follow up with Allegan County to request a letter indicating that a permit is not required for the SESC application.	CRA
7 c.	The U.S. EPA will provide a formal response to CRA's July 8, 2010 letter detailing the temporary well alternative for perched leachate management.	U.S. EPA
8	<u><b>ADMINISTRATIVE ISSUES</b></u>	
8 a.	None.	

☐ Attachments: None

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Prepared By: Renee Pionk - CRA Date Issued: July 27, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: July 28, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Scott Hutsell, CH2M Hill	Sarah Conkle, CH2M Hill
Jeff Keiser, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA	Rick Hoekstra, CRA
Renee Pionk, CRA	Aaron Stadnyk, CRA	Jodie Dembowski, CRA Services	

### Distribution:

All Parties listed above.	Grant Koster, CH2M Hill	Pete Lewis, CRA Services	Hassan Gilani, Inspec-Sol
Dan Nelson, CRA			

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	An unsafe act was reported for inadequate spotting of the drill rig while it was backing-up onto the Site.	
2 c.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	



Item	Description	Action By
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
4	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Site received 3-inches of rain on Thursday 7/22. During one rain event, 1.25-inches of rain fell in one hour.	CRA Services
4 b.	Soil erosion and sediment control activities, including clean-up of wash-out area along west MDNRE property boundary; re-installation of silt fence; and installation of temporary straw bale check dams along lower western and northern Site slopes adjacent to the MDNRE property.	
4 c.	Cut-down of area along southern Site property boundary.	
4 d.	Backfilled southwest excavation area on Asphalt Plant property.	
4 e.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to Plainwell WWTP.	
4 f.	Placement of engineered topsoil onto northern backfilled wetland areas.	
4 g.	Surveyors on-site to survey excavated areas, verification soil sample locations, and verify grade stakes.	
4 h.	Compaction testing on west, northwest, and north top portions of landfill.	
4 i.	Installation of four leachate extraction wells.	
5	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Removal of paper residuals from Asphalt Plant property; dewatering of excavation areas and off-Site disposal of treated water; installation of inner silt fence adjacent to northern on-Site wetland areas; compaction testing.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Continue removal of paper residuals from Asphalt Plant property.	
5 c.	Verification of soil remediation sampling.	
5 d.	Backfilling of Asphalt Plant property.	
5 e.	Pumping of leachate extraction wells.	
5 f.	Operation of water treatment system to manage water that has collected in excavations and leachate that has been pumped from leachate extraction wells.	
6	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	U.S. EPA
6 b.	<b>MDNRE:</b> None.	



Item	Description	Action By
6 c.	CRA: CRA stated that some small changes were made to the locations of extraction wells LEW #1 and LEW #2 (8 attempts were made for LEW #1) and that in general construction debris was not encountered with the exception of some wire at LEW #1. During many of the attempts for LEW #1, paper residuals would be encountered approximately 15 to 16 feet below ground surface, with no areas of saturation above. A figure with the leachate well locations and attempts is being drafted and the water level measurements will also be provided. In addition, a composite sample of the leachate was collected and results are expected on Friday 7/30.	
6 d.	CRA stated that during excavation activities in the southwest corner of the asphalt property, a small seam of grayish-blue material was observed just below the asphalt layer and appears to have a more silt consistency than what has been observed with previously excavated paper residuals. Based on analytical results received for this material, PCBs were detected above criteria. CRA is working with the asphalt company to determine when would be the best time to delineate/excavate this material. It is anticipated that this excavation work will occur on a weekend. Analytical results will be provided in the next progress report.	
6 f.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 b.	CRA will follow up with Allegan County to request a letter indicating that a permit is not required for the SESC application.	CRA
7 c.	CRA will provide a figure of the leachate extraction well locations and attempts made.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: \_\_\_\_\_, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper / Portage Creek / Kalamazoo River Superfund Site

LOCATION: Site Office / Conference Call DATE: August 6, 2010 TIME: 1:30 PM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Scott Hutsell, CH2M Hill	Sarah Conkle, CH2M Hill
Jeff Keiser, CH2M Hill	Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA
Renee Pionk, CRA	Jodie Dembowske, CRA Services	Pete Lewis, CRA Services	Hassan Gilani, Inspec-Sol
Aaron Stadnyk, CRA			

### Distribution:

All Parties listed above.	Rick Hoekstra, CRA	Dan Nelson, CRA	
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Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Limited Site work occurred on 7/30, 8/2, and 8/3 due to high water levels in the Kalamazoo River and in on-Site excavation areas.	CRA Services
4 b.	Additional clean-up of wash-out area along west MDNRE property boundary.	
4 c.	Installation of inner silt fence along on-Site north wetland areas.	
4 d.	Backfilled area north of southwest corner of Asphalt Plant property based on results from VSR sampling.	
4 e.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to Plainwell WWTP.	
4 f.	Excavation of paper residuals and subsequent backfill of excavated trenches after visual verification of removal of paper residuals.	
4 g.	Collection of two verification soil samples on 7/28.	
4 h.	Compaction testing on northeast, northwest, and north top portions of landfill.	
4 i.	Pumping of three out of four leachate extraction wells. One well is dry.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Removal of paper residuals from Asphalt Plant property and collection of VSR samples.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Continue removal of paper residuals from Asphalt Plant property.	
5 c.	Verification of soil remediation sampling, including sample from MDNRE washout area.	
5 d.	Backfilling of Asphalt Plant property.	
5 e.	Pumping of leachate extraction wells.	
5 f.	Operation of water treatment system to manage water that has collected in excavations and leachate that has been pumped from leachate extraction wells.	
5 g.	Removal of additional material from southwest corner of Asphalt Plant property and verification soil sample collection and backfilling of area (scheduled for weekend on August 13 <sup>th</sup> ).	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill inquired as to whether excavation of deeper excavation areas would continue to occur. CRA replied that no more deep excavations are anticipated.	U.S. EPA
6 b.	<b>MDNRE:</b> None.	
6 c.	<b>CRA:</b> CRA reported that approximately 350 gallons of liquid has been removed from the leachate wells. Minimal hydraulic influence has been observed. The pumping information will be summarized in a memorandum.	





Item	Description	Action By
6 d.	CRA reported that the excavation of the potential deeper excavation areas has been completed and paper residuals did not exceed 10 feet in depth. Paper residuals within the deep excavations areas were generally observed from 8 feet to 9 feet below ground surface.	
6 e.	CRA reported that based on recent survey data; there is a shortage of material to meet the design grades. CRA's design engineer will evaluate the data and adjust the final grade design to accommodate proper drainage and minimize the need to bring off-Site fill on Site to meet design grades.	
6 f.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 b.	CRA will follow up with Allegan County to request a letter indicating that a permit is not required for the SESC application.	CRA
7 c.	CRA will provide a memo summarizing the pumping data of the leachate extraction wells.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: August 10, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: August 11, 2010 TIME: 11:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Sarah Conkle, CH2M Hill	Jodie Dembowske, CRA Services	Renee Pionk, CRA
Pete Lewis, CRA Services	Rick Hoekstra, CRA	Aaron Stadnyk, CRA	

### Distribution:

All Parties listed above.	Richard Gay, Weyerhaeuser	Dan Nelson, CRA	Hassan Gilani, Inspec-Sol
Greg Carli, CRA			

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Limited Site work occurred on 8/9 and 8/11 due to inclement weather.	CRA Services
4 b.	Excavation of paper residuals on Asphalt Plant property and backfilling of areas based on verification soil sample results.	
4 c.	Excavation of paper residuals on Asphalt Plant property and collection of two verification soil samples on 8/6 and two samples on 8/7.	
4 d.	Backfilled area north of southwest corner of Asphalt Plant property based on results from verification soil sample results.	
4 e.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to City of Plainwell Water Renewal Plant.	
4 f.	Pumping of three out of four leachate extraction wells. One well is dry. Approximately 210 gallons were pumped out of the wells on 8/10. Total gallons pumped to date are approximately 530 gallons. CRA will provide a memo summarizing the pumping data of the leachate extraction wells.	CRA
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Backfill areas on asphalt property based on verification soil sample results; compaction testing, continue excavation of paper residuals on Asphalt Plant property and collection of verification soil samples; removal of material from Asphalt Plant property where Wyoming Asphalt operates.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Backfilling of Asphalt Plant property.	
5 c.	Collect verification soil samples from MDNRE washout area.	
5 d.	Pumping of leachate extraction wells.	
5 e.	Operation of water treatment system to manage water that has collected in excavations and leachate that has been pumped from leachate extraction wells.	
5 e.	Final grading for subgrade of landfill.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA inquired as to whether the pre-liner installation meeting would still occur on September 8, 2010. CRA Services replied that work is on schedule for the September 8, 2010 pre-liner installation meeting.	
6 b.	<b>CH2M Hill</b> requested that a comment and/or clarification be included in the monthly progress report regarding compaction results greater than 100 percent. CRA indicated that comments/clarifications would be provided for compaction results greater than 100 percent.	CRA
6 c.	<b>MDNRE:</b> None.	



Item	Description	Action By
6 d.	CRA: CRA reported that based on recent survey data; there is a shortage of material to meet the design grades. CRA's design engineer has evaluated the recent survey data and is finalizing a new sub-grade plan. The new sub-grade plan will be provided to the U.S. EPA for review. The U.S. EPA requested that the new sub-grade plan include information on what was proposed in the final design and what has changed. In addition the U.S. EPA requested that cross-sections (Drawings C-08 and C-09) of the landfill with the new sub-grade changes also be provided.	CRA
6 e.	CRA Services: None.	
7	<u>ACTION ITEMS</u>	
7 a.	CRA will provide a memo summarizing the pumping data of the leachate extraction wells.	CRA
7 b.	CRA will provide new sub-grade drawings and cross-sections.	CRA
8	<u>ADMINISTRATIVE ISSUES</u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: August 17, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: August 18, 2010 TIME: 11:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Scott Hutsell, CH2M Hill	Jeff Keiser, CH2M Hill
Richard Gay, Weyerhaeuser	Grant Koster, CH2M Hill	Jodie Dembowske, CRA Services	Renee Pionk, CRA
Rick Hoekstra, CRA	Greg Carli, CRA	Aaron Stadnyk, CRA	

### Distribution:

All Parties listed above.	Pete Lewis, CRA Services	Dan Nelson, CRA	Hassan Gilani, Inspec-Sol
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Item	Description	Action By
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	
2 c.	Due to three months of data indicating no exceedances for the air monitoring conducted on-Site, PPE has been down-graded to Level D and tyveks no longer need to be worn, unless decontaminating equipment, leachate collection, or Site conditions warrant an upgrade.	



Item	Description	Action By
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
4	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Excavated material from south side of Site near south decontamination station for drainage swale.	CRA Services
4 b.	Excavated remaining paper residuals on Asphalt Plant property and subsequently backfilled the area.	
4 c.	Excavated additional material on the Asphalt Plant property in the vicinity of verification soil sample 11 based on VOC exceedance. Area was re-sampled and analytical results are below criteria.	
4 d.	Compaction testing on northern and center top portions of landfill.	
4 e.	Dewatering of excavations and operation of water treatment system. Also disposal of treated water to the City of Plainwell Water Renewal Plant.	
4 f.	Excavated material from Asphalt Plant property southwest of Site over the weekend. Due to time and material constraints, the blue/gray material observed remains in the western and north-western sidewalls of the excavation. Three samples containing the blue/gray material were collected in addition to five other verification soil samples collected from the excavation floor and southern sidewalls. The excavation has been delineated to the east, south, and north.	
4 g.	Pumping of three out of four leachate extraction wells. One well is dry. Approximately 600 to 700 gallons have been pumped out of the wells to date.	
5	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Clean-up of areas along western delineated edge of Asphalt Plant property and along cap limits on west side of Site; compaction testing, collection of verification soil samples from wash-out area on MDNRE property; surveying and grading of Site based on revised sub-grade plan; pumping of leachate.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Grading of Site based on revised sub-grade plan.	
5 c.	Excavate remaining areas for drainage swales.	
5 d.	Backfilling of MDNRE property.	
5 e.	Begin construction of the final cover system with placement of a 6-inch sand layer above the paper residuals.	
6	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> The MDNRE indicated they would be making a site visit on Thursday, August 19 <sup>th</sup> .	



Item	Description	Action By
6 d.	<b>CRA:</b> CRA indicated that based on the progress schedule, the leachate extraction wells are anticipated to be abandoned during the week of September 3 <sup>rd</sup> . CRA reported that no real active generation of leachate from the wells has been observed and that recharge rates for some wells appear to be decreasing. In addition, the leachate seeps on the eastern side of the landfill appear to be dissipating and the leachate seeps on the northwestern side of the landfill appear to be "oozing or bubbling" instead of trickling as in the past. CH2M Hill inquired as to whether the water levels in the leachate well increased after a rainfall? CH2M Hill also inquired about the volume of leachate from the wells and whether the volumes have been decreasing? CRA responded that additional data would be collected this week and early next week. A memorandum summarizing the leachate pumping data would also be distributed.	CRA
6 e.	CRA inquired as to whether there were any comments from the U.S. EPA or the MDNRE regarding the revised sub-grade plan. The U.S. EPA and the MDNRE responded that they did not have any comments. The U.S. EPA responded that a formal acceptance letter was not needed for the revised sub-grade plan because there were no changes to the specifications, and that the revised sub-grade plan was viewed as a field design change based on the amount of material encountered.	
6 f	CRA inquired, that based on the project schedule, could the on-Site liner installation meeting be moved up to the week of August 30 <sup>th</sup> ? Based on the responses from the interested parties, the on-Site liner installation meeting will be rescheduled for Tuesday, August 31 <sup>st</sup> . CRA will send out an updated meeting request for this event.	CRA
6 g	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a memo summarizing the pumping data of the leachate extraction wells.	CRA
7 b.	CRA will send out an updated meeting request for the on-Site liner installation meeting scheduled for Tuesday, August 31, 2010.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: August 24, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
LOCATION: Site Office/Conference Call DATE: August 25, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Scott Hutsell, CH2M Hill	Jeff Keiser, CH2M Hill	Renee Pionk, CRA
Dan Nelson, CRA	Jodie Dembowske, CRA Services	Grant Koster, CH2M Hill	Aaron Stadnyk, CRA

### Distribution:

All Parties listed above.	Pete Lewis, CRA Services	Greg Carli, CRA	Hassan Gilani, Inspec-Sol
Richard Gay, Weyerhaeuser	Rick Hoekstra, CRA	Kristi Zakrzewski, MDNRE	

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
2 c.	Due to three months of data indicating no exceedances for the air monitoring data, PPE has been down-graded to Level D and tyvecks no longer need to be worn, unless decontaminating equipment, leachate collection, or Site conditions warrant an upgrade.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Surveyed revised sub-grade plan and performed final grading based on the revised sub-grade plan.	CRA Services
4 b.	Decontaminated equipment including one post-treatment frac tank.	
4 c.	Collected VSR samples on MDNRE wash-out area.	
4 d.	Compaction testing on northern, west-center, and eastern top portions of landfill.	
4 e.	Disposal of treated water to City of Plainwell Water Renewal Plant.	
4 f.	Delivery of straw erosion control matting for placement on engineered topsoil after seeding.	
4 g.	Excavate swale outlet near northeast side of Site along northern MDNRE property boundary.	
4 h.	Backfill northern MDNRE property that was previously excavated.	
4 i.	Pumping of three out of four leachate extraction wells. One well is dry.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> perform additional excavation and sampling on asphalt property based on verification soil sample results; continue final grading of Site sub-grade, excavate remaining drainage swale areas; seed engineered topsoil placed along northern wetland areas; pumping of leachate.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Installation of gas vents.	
5 c.	Begin construction of the final cover system with placement of a 6-inch sand layer above the paper residuals.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill indicated that they are interested in reviewing the leachate pumping data.	
6 b.	<b>MDNRE:</b> None.	
6 d.	<b>CRA:</b> CRA reported that a preliminary review of the leachate data collected suggests that the quantity of leachate pumped from the wells is decreasing and recharge rates appear to be decreasing also. A noticeable decrease in the recharge rate has been observed in well LEW #3 and LEW #4 has shown a	CRA



Item	Description	Action By
	decrease in the recharge rate from 2 hours to 4.5 hours. CRA will collect additional data with regards to LEW #1 and also continue pumping leachate from the other wells. A memorandum summarizing the leachate pumping data would also be distributed.	
6 e.	CRA indicated that additional excavation and sampling was warranted based on verification soil sampling results received for samples collected during excavation on the Asphalt Plant property where Wyoming Asphalt operates. Additional excavation and sampling in this area is anticipated to occur on Thursday, August 26, 2010.	
6 f.	CRA stated that the liner installer is available on Tuesday, August 31 <sup>st</sup> and confirmed that the U.S. EPA and the MDNRE would be available on that day also for the liner installation meeting. CRA indicated that the weekly progress meeting would also occur on Tuesday, August 31 <sup>st</sup>	CRA
6 g.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a memo summarizing the pumping data of the leachate extraction wells.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: September 8, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
LOCATION: Site Office/Conference Call DATE: August 31, 2010 TIME: 2:30 PM

### Participants:

Michael Berkoff, U.S. EPA	Grant Koster, CH2M Hill	Jeff Keiser, CH2M Hill	Renee Pionk, CRA
Pete Lewis, CRA Services	Jodie Dembowske, CRA Services	Greg Carli, CRA	Aaron Stadnyk, CRA
Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol	Kristi Zakrzewski, MDNRE	

### Distribution:

To all participants listed above.	Richard Gay, Weyerhaeuser	Scott Hutsell, CH2M Hill	Dan Nelson, CRA

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
2 c.	Due to three months of data indicating no exceedances for the air monitoring data, PPE has been down-graded to Level D and Tyvek suits no longer need to be worn, unless decontaminating equipment, leachate collection, or Site conditions warrant an upgrade.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Grading Site for final sub-grade elevations.	CRA Services
4 b.	Compaction testing on northern, western, west-center, and eastern top portions of landfill.	
4 c.	Additional excavation conducted on Asphalt Plant property (see Item 6d).	
4 d.	Excavated swale area at Site entrance.	
4 e.	Seeding and placement of straw erosion control matting on engineered topsoil in northern wetland areas.	
4 f.	Installation of gas vents.	
4 g.	Pumping of three out of four leachate extraction wells.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Excavated leachate extraction trenches on Asphalt Plant property, excavate leachate trenches and manage leachate; begin installing gas venting layer; begin excavating anchor trench.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Abandonment of leachate extraction wells.	
5 c.	Installation of liner and geocomposite material.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA requested and updated master schedule.	CRA Services
6 b.	<b>MDNRE:</b> The MDNRE will be on-Site on Wednesday, September 8 <sup>th</sup> , 2010.	



Item	Description	Action By
6 c.	CRA: CRA reported that based on the data collected, there is a slight decrease in the daily quantity of leachate collected and there is a slight decrease in the recharge rate at two of the three active leachate extraction wells. In addition, the seep on the northwest side of the Site appears has decreased in size. Approximately 1,000-gallons of leachate have been removed to date. Based on the continued presence of the seeps, a small trench will be excavated just above the emanating point of the seep and leachate will be collected and pumped from the trench until Friday (9/3) afternoon. Based on comments from the U.S. EPA, a draft memo will be issued on Wednesday 9/2 and a conference call will be scheduled for Friday 9/3 at 2:00 pm to discuss results of the leachate trench installation and leachate management. The memo will include a discussion regarding slope stability with regards to the leachate seeps.	CRA
6 d.	CRA reported that additional excavation and sampling was conducted on the Asphalt Plant property where Wyoming Asphalt operates. The excavation area encroached upon the Wyoming Asphalt trailer offices, and it is anticipated that the paper residual material observed continues underneath the office trailers. Test pits will be conducted on the north and south sides of the office trailers to determine if the paper residual material continues to be present underneath the trailers.	
6 e.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a draft memo summarizing the pumping data of the leachate extraction wells.	CRA
7 b.	CRA Service will provide an updated master schedule.	CRA Services
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: \_\_\_\_\_, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
 LOCATION: Site Office/Conference Call DATE: September 8, 2010 TIME: 10:30 AM

**Participants:**

Michael Berkoff, U.S. EPA	Richard Gay, Weyerhaeuser	Kristi Zakrzewski, MDNRE	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Jeff Keiser, CH2M Hill	Jodie Dembowske, CRA Services	Rick Hoekstra, CRA
Hassan Gilani, Inspec-Sol	Aaron Stadnyk, CRA		

**Distribution:**

To all participants listed above.	Greg Carli, CRA	Pete Lewis, CRA Services	Dan Nelson, CRA
Renee Pionk, CRA			

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	
2 c.	Due to three months of data indicating no exceedances for the air monitoring data, PPE has been down-graded to Level D and tyvecks no longer need to be worn, unless decontaminating equipment, leachate collection, or Site conditions warrant an upgrade.	



Item	Description	Action By
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
4	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Excavated test pits on asphalt property.	CRA Services
4 b.	Excavated leachate trenches, pumped leachate out of trenches, and backfilled trenches.	
4 c.	Excavate anchor trench along north and northeastern sides of Site.	
4 d.	Grading site for final sub-grade elevations.	
4 e.	Placement of gas venting layer on northeast and western sides of Site.	
5	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> continue to install gas venting layer; continue to excavate anchor trench; conduct additional excavation on asphalt property; abandon leachate extraction wells.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Installation of liner and geocomposite material.	
6	<b><u>PROJECT ISSUES</u></b>	
6 a.	U.S. EPA: None.	CRA Services
6 b.	MDNRE: None.	
6 c.	CRA: None.	CRA
6 e.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will submit the revised leachate extraction summary memo by 9/9/2010.	CRA
7 b.		
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: September 15, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
 LOCATION: Site Office/Conference Call DATE: September 15, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA	Renee Pionk, CRA
Jodie Dembowske, CRA Services	Aaron Stadnyk, CRA		

### Distribution:

To all participants listed above.	Hassan Gilani, Inspec-Sol	Pete Lewis, CRA Services	Rick Hoekstra, CRA
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	There have been no exceedances with regards to air monitoring conducted at the Site. Dust is controlled by use of the water truck on an as needed basis.	
2 c.	Due to three months of data indicating no exceedances for the air monitoring data, PPE has been down-graded to Level D and tyvecks no longer need to be worn, unless decontaminating equipment or Site conditions warrant an upgrade.	





<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Excavated additional material from asphalt plant property, collected verification soil samples, and backfilled area.	CRA Services
4 b.	Abandoned leachate extraction wells.	
4 c.	Continued excavation of anchor trench along around the Site (90 percent complete).	
4 d.	Continued placement of gas venting layer across Site (90-95 percent complete).	
4 e.	Liner crew arrived on Tuesday 9/14; began placing liner on northeastern portion of Site on Wednesday 9/15 morning.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Finish installing gas venting layer; continue to excavate anchor trench; placement of liner and geocomposite material.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Construction of Site road and swales.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	CRA Services
6 b.	<b>MDNRE:</b> The MDNRE will be on-Site on Tuesday and Thursday of next week.	
6 c.	<b>CRA:</b> CRA indicated that a figure and results for the additional excavation on the asphalt plant property would be provided with the next progress report.	CRA
6 d.	CRA indicated that the top stone portion of the gas vents (as shown in Detail 12 on Drawing No. C-12) would be covered with geotextile to offer a smoother surface for the liner installation and will also offer more protection for the liner. The U.S. EPA requested a letter regarding the deviation in construction.	
6 e.	<b>CRA Services:</b> None.	
<b>7</b>	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will submit a letter documenting the deviation in construction of the gas vents.	CRA



<i>Item</i>	<i>Description</i>	<i>Action By</i>
8	<u>ADMINISTRATIVE ISSUES</u>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: September 22, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: September 22, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Greg Carli, CRA	Jodie Dembowske, CRA Services	Rick Hoekstra, CRA
Renee Pionk, CRA	Hassan Gilani, Inspec-Sol	Aaron Stadnyk, CRA	

Distribution:

To all participants listed above.	Richard Gay, Weyerhaeuser	Pete Lewis, CRA Services	Dan Nelson, CRA
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The gas venting layer has been installed and air monitoring requirements have been completed. The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	Security for the Site has been reduced to only having a security detail present on weekend. Security patrols are conducted from 5:00pm on Friday until 7:00 am on Monday.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Completed installation of gas venting layer.	CRA Services
4 b.	Liner and geonet composite material are installed on approximately half of the landfill (eastern side of Site).	
4 c.	Backfilled anchor trench along northern boundary of the landfill, along a portion of the western MDNRE property boundaries, and along east side of Site adjacent to the Kalamazoo river.	
4 d.	Installed liner flap for surface water management on slopes along the eastern side of the Site and the northeast corner of the Site.	
4 e.	Fifteen liner destruct samples have been collected and submitted for laboratory analysis and results have exceeded requirements.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> liner crew working ½-day on Thursday 9/23 due to training commitment; depending on weather, liner crew will be working Friday 9/24 through to a portion of Sunday 9/26 and then will be off-Site for a week for a prior job commitment.	CRA Services
5 b.	<b>Upcoming Tasks:</b> While liner crew is off-Site, CRA Services will be placing general fill on geonet composite material and constructing the access road for the Site.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill inquired as to the discrepancy between the specification for the liner (Section 02072) and the Construction Quality Assurance Plan (CQAP) for the liner (Section 10) with regards to manufacturer conformance test samples. CRA responded that Section 02072, paragraph 2.3 specifies that, "ENGINEER or a designated, independent geosynthetics laboratory may perform additional testing (i.e., conformance testing) to verify the LLDPE geomembrane meets the specifications." CRA reported that the liner manufacturer has completed the required conformance testing and the testing results were reviewed and approved by CRA. The language contained in Section 10.3.1 of the CQAP lists the appropriate testing methods and procedures in the event additional testing was requested by the ENGINEER.	CRA Services
6 b.	The U.S. EPA requested that the liner quality assurance/quality control (QA/QC) data be shared in a timely manner instead of waiting for inclusion in the monthly progress report. CRA reported that the liner QA/QC data is being reviewed internally as soon as it is received from the sub-contractor. CRA indicated that the data will be submitted informally to the U.S. EPA Site representative as soon as practical after it has been reviewed internally.	
6 c.	<b>MDNRE:</b> The MDNRE requested a copy of the Substantive Requirements Document (SRD) for surface water flow from the Site to the Kalamazoo River.	CRA



<i>Item</i>	<i>Description</i>	<i>Action By</i>
6 d.	<b>CRA:</b> CRA indicated that for the flat areas along the northern on-Site wetland areas, a section of 6-mil poly sheeting would be placed under liner seams for assistance with welding seams in these areas, due to moisture content under the liner near the saturated wetland boundary.	CRA
6 e.	CRA reported that several marks/indentions/punctures from deer tracks were observed on a portion of the liner located on the slope along the northern MDNRE property boundary. These locations were marked and subsequently repaired. Installed liner will be inspected for animal tracks and repairs marked as needed.	
6 f.	CRA will submit a letter documenting the deviation in construction of the gas vents.	
6 g.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will submit a letter documenting the deviation in construction of the gas vents.	CRA
7 b.	CRA will provide a copy of the SRD for the Site.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: September 28, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
LOCATION: Site Office/Conference Call DATE: September 29, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Grant Koster, CH2M Hill
Richard Gay, Weyerhaeuser	Rick Hoekstra, CRA	Renee Pionk, CRA	Aaron Stadnyk, CRA

### Distribution:

To all participants listed above.	Scott Hutsell, CH2M Hill	Jodie Dembowski, CRA Services	Pete Lewis, CRA Services
Greg Carli, CRA	Hassan Gilani, Inspec-Sol		

Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Installed geonet composite material on north top portion of landfill and north slope.	CRA Services
4 b.	Installed liner on a portion of the north-northwest slope area. Deer have not appeared to have crossed the liner in the last week.	
4 c.	Backfilled anchor trench along northern and a portion of the western MDNRE property boundaries and along east side of the Site adjacent to Kalamazoo River.	
4 d.	Placed general fill on geonet composite material on top portion of landfill from southeast corner area to northeast corner area and along east slope at northeast corner area.	
4 e.	Three liner destruct samples were collected and submitted for laboratory analysis and results have exceeded requirements.	
4 f.	Excavated pocket of residuals encountered in NE corner area. Area excavated was approximately 15 ft x 20 ft and residual were between 4-inches and 1.5 feet thick. Residuals were placed in the location of the former Site access road.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> continued placement of general fill on geonet composite material; placement of general fill and construction of toe drain and swale along the MDNRE western property boundary. Liner crew may be back on Site over the weekend.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Complete liner installation; continued placement of general fill on geonet composite material and construction of toe drains and swales.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> CH2M Hill reported that John Bradley from the MDNRE had comments regarding the monitoring well network for the Site. CH2M Hill will keep CRA apprised of potential changes with regards to the installation of the monitoring well network.	
6 b.	<b>MDNRE:</b> None.	
6 c.	<b>CRA:</b> CRA inquired if the U.S. EPA/CH2M Hill had any comments regarding CRA's response regarding the discrepancy between the specification for the liner (Section 02072) and the Construction Quality Assurance Plan (CQAP) for the liner (Section 10) with regards to manufacturer conformance test samples. The U.S. EPA/CH2M Hill did not have comments.	
6 d.	<b>CRA Services:</b> None.	



Item	Description	Action By
7	<u>ACTION ITEMS</u>	
7 a.	CRA will submit a letter documenting the deviation in construction of the gas vents.	CRA
7 b.	CRA will provide a copy of the Substantive Requirements Document (SRD) to the MDNRE for the Site.	CRA
8	<u>ADMINISTRATIVE ISSUES</u>	
8 a.	None.	

☐ Attachments: None

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Prepared By: Renee Pionk - CRA Date Issued: October 6, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.





## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
 LOCATION: Site Office/Conference Call DATE: October 6, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Sarah Conkle, CH2M Hill
Richard Gay, Weyerhaeuser	Greg Carli, CRA	Rick Hoekstra, CRA	Hassan Gilani, Inspec-Sol
Renee Pionk, CRA	Jodie Dembowske, CRA Services	Aaron Stadnyk, CRA	

### Distribution:

To all participants listed above.	Grant Koster, CH2M Hill	Scott Hutsell, CH2M Hill	Pete Lewis, CRA Services
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Installed liner on northwest slope and on west and southwest side slopes of Site. Liner has been installed across the entire landfill, with the exception of the surface water management flap. Deer have not appeared to have crossed the liner.	CRA Services
4 b.	Placement of general fill on upper slope along the western and northern MDNRE property boundaries and along the north and northeast upper slope areas.	
4 c.	Placement of general fill for construction of swale areas along the western and northern MDNRE property boundaries.	
4 d.	Placement of bottom layer of stone for toe drain along western and northern MDNRE property boundaries.	
4 e.	Eight liner destruct samples were collected and submitted for laboratory analysis on Tuesday, October 5, 2010. The destruct samples passed the field tests and CRA is awaiting results for the laboratory tests.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Extrusion welding of liner repair areas; placement of geonet composite material on remainder of landfill, continued placement of general fill on geonet composite material; excavation of channels in swales along the northern and western MDNRE property boundaries.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Complete placement of general fill on geonet composite material; construction of toe drains and swales; topsoil placement.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> The MDNRE inquired as to whether the monitoring well installation schedule has changed. CRA Services replied that the monitoring well installation schedule based on the most recent updated master schedule would occur from November 12 to November 15, 2010.	
6 b.	The MDNRE indicated they would be making a Site visit next week.	
6 c.	<b>CRA:</b> Based on discussion regarding the monitoring well installation schedule, it was decided to schedule a pre-final construction meeting for Wednesday, November 3, 2010 at 1:00 PM EST. CRA will send out a meeting request.	CRA
6 d.	<b>CRA Services:</b> None.	
<b>7</b>	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a copy of the Substantive Requirements Document (SRD) to the MDNRE for the Site.	CRA
7 b.	CRA will send out a meeting request for the November 3, 2010 pre-final construction meeting.	CRA



<i>Item</i>	<i>Description</i>	<i>Action By</i>
8	<u>ADMINISTRATIVE ISSUES</u>	
8 a.	None.	

☐ Attachments: None

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Prepared By: Renee Pionk - CRA Date Issued: October 13, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
 LOCATION: Site Office/Conference Call DATE: October 13, 2010 TIME: 10:30 AM

Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Hassan Gilani, Inspec-Sol
Jodie Dembowski, CRA Services	Renee Pionk, CRA	Aaron Stadnyk, CRA	

Distribution:

To all participants listed above.	Grant Koster, CH2M Hill	Scott Hutsell, CH2M Hill	Pete Lewis, CRA Services
Dan Nelson, CRA	Greg Carli, CRA	Rick Hoekstra, CRA	Richard Gay, Weyerhaeuser

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Completed extrusion weld of liner repair areas.	CRA Services
4 b.	Installed wormgear clamps on gas vents.	
4 c.	Installed liner flap for surface water management along northwest, west, and southwest sides of Site. Liner crew finished and off-Site on Friday, October 8, 2010.	
4 d.	Installed geonet composite material on northwest, west, and southwest sides of Site. Geonet installation complete.	
4 e.	Six liner destruct samples were collected and submitted for laboratory analysis and results have met and exceeded requirements.	
4 f.	Placement of general fill on top of landfill and upper slopes along the north and northwest portions of Site and a portion of the west top and western slope.	
4 g.	Placement of general fill for construction of the swale along the north side of Site. General fill also placed for swale along a portion of the west side of Site.	
4 h.	Excavated swale channels along northern and western MDNRE property boundaries.	
4 i.	Backfilled anchor trench along the northwest and west side of Site.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> complete general fill placement on top and upper slopes of landfill and along swale areas on west and south side of Site; Excavate swale channels along the northern and western sides of Site; possibly begin placement of topsoil.	CRA Services
5 b.	<b>Upcoming Tasks:</b> complete construction of swales with geoweb and turf reinforcement mat; topsoil placement; install geonet discharge stone layer around Site.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> The MDNRE reported that comments are being prepared by a State of Michigan geologist regarding the long term monitoring plan.	
6 c.	The MDNRE inquired about the status the Substantive Requirements Document (SRD) for the Site. CRA responded that they are working on submitting the document to the MDNRE.	CRA
6 d.	<b>CRA:</b> CRA reported that a drilling crew is scheduled to start work at the Site the week of November 8, 2010.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
6 e.	CRA inquired if there were any issues with viewing the September 2010 monthly progress report. Several PDFs were attached to the September 2010 monthly report and the file may crash or take a significant time to download. CRA can send individual PDFs for components of the progress report, if requested. The MDNRE inquired as to whether hard copies of recent progress reports would be sent. CRA responded that hard copies of the last 4 reports will be sent out to respective parties.	CRA
6 f.	<b>CRA Services:</b> None.	
<b>7</b>	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a copy of the Substantive Requirements Document (SRD) to the MDNRE for the Site.	CRA
7 b.	CRA will send out a meeting request for the November 3, 2010 pre-final construction meeting.	CRA
7 c.	CRA will send out hard copies of the last four monthly progress reports.	CRA
<b>8</b>	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: October 20, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: October 20, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA	Rick Hoekstra, CRA
Pete Lewis, CRA Services	Hassan Gilani, Inspec-Sol	Renee Pionk, CRA	Aaron Stadnyk, CRA

### Distribution:

To all participants listed above.	Jodie Dembowske, CRA Services		
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Placement of general fill on top portion and upper slope areas along west side and south side of Site. General fill also placed on lower slope area along the north, northwest, and west side of the Site and at southeast corner area.	CRA Services
4 b.	Placement of general fill for construction of swale areas at southeast corner, southwest corner, and west side of Site.	
4 c.	Placement of bottom stone layer within geotextile for toe drain along the north, west, and south sides of the Site. Bottom storm layer complete except for area of former temporary access road near southeast corner of Site.	
4 d.	Excavated remaining swale channel along western MDNRE property boundary at southeast corner of Site.	
4 e.	Backfilled anchor trench along the south-center and southwest side of Site.	
4 f.	Extended liner flap and geonet composite material at southeast corner of Site and along the south-center and southwest sides of Site.	
4 g.	Surveyors on-Site to mark grades for swale channels.	
4 h.	Removed former fence along south side of Site and graded area	
4 i.	Removed temporary access road near southeast corner of Site and re-built former access road near southwest corner of Site.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Complete bottom stone layer portion of toe drain along south side of Site; excavate swale channels on north and west sides of Site, topsoil placement, begin geoweb installation	CRA Services
5 b.	<b>Upcoming Tasks:</b> complete construction of swales with geoweb and turf reinforcement mat; installation of upper stone layer for toe drains around Site; install geonet discharge stone layer around Site.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> The MDNRE inquired about the status the Substantive Requirements Document (SRD) for the Site. CRA responded that they are determining whether the discharge for the closed landfill Site would be considered an industrial discharge. The MDNRE inquired as to whether CRA has contacted the Water Bureau. CRA responded that they have not contacted the Water Bureau but would research the matter further. The MDNRE indicated that they would research the matter on their end also.	CRA/MDNRE
6 c.	<b>CRA:</b> CRA inquired as to whether the date for the pre-final construction meeting, tentatively scheduled for November 3, 2010, would be suitable based on the work remaining to be completed. CRA Services responded that they would likely be finishing the swale construction and topsoil placement during the week of November 3 <sup>rd</sup> , and that seeding and well installation would be occurring during the week of November 8 <sup>th</sup> . The U.S. EPA responded that they would inform CRA on whether the November 3 <sup>rd</sup> date would be suitable.	U.S. EPA





Item	Description	Action By
6 d.	CRA reported that a small area of liner was punctured during removal of the temporary access road near the southeast corner of the Site. The hole was approximately the size of a softball (three to four inches in diameter), and CRA Services is making arrangements to have the hole repaired.	
6 e.	CRA reported that additional liner material had to be added to the stormwater management flap installed on the south side of the Site due to the shallow slope towards the swale in this area. CRA Services used the remaining 40-mil LLDPE that was available and then substituted available 20-mil LLDPE material to finish extending areas near the southeast and southwest corner areas. CRA indicated that use of the 20-mil LLDPE material for the stormwater management flap does not affect the function of the primary 40-mil LLDPE liner. The MDNRE inquired as to whether the stormwater management flap extension was a consequence of encountering less paper residual material during excavation activities. CRA responded that based on the shallower slope in this area (approximately 8:1) versus 4:1 for other slopes around the landfill, the stormwater management flap had to be wider along the south side of the Site. The U.S. EPA requested a letter or memo be submitted documenting the use of the 20-mil LLDPE material for extension of the stormwater management flap.	CRA
6 f.	CRA Services: None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA and the MDNRE will verify requirements with regards to an SRD for the Site.	CRA/MDNRE
7 b.	The U.S. EPA will inform CRA on the suitability of the November 3, 2010 pre-final construction meeting date.	U.S. EPA
7 c.	CRA will send out hard copies of the last four monthly progress reports.	CRA
7 d.	CRA will submit a memo or letter documenting the use of the 20-mil LLDPE material for extension of the stormwater management flap.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: October 26, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within three days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site  
LOCATION: Site Office/Conference Call DATE: October 27, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA	Renee Pionk, CRA
Pete Lewis, CRA Services	Rick Hoekstra, CRA	Jodie Dembowski, CRA Services	Aaron Stadnyk, CRA

### Distribution:

To all participants listed above.	Hassan Gilani, Inspec-Sol		
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Item	Description	Action By
1	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
2	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
3	<b><u>SITE SECURITY</u></b>	
3 a.	None.	

<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Completed placement of general fill material on top of geonet composite material except for the former temporary road area.	CRA Services
4 b.	Placement of topsoil at northeast corner area, on top and along slope on north side of Site, and along a portion of the northwest slope.	
4 c.	Excavated swale channel and outlets along the north and northwest sides of Site.	
4 d.	Excavated anchor trench in swale for geoweb material along the east side of Site adjacent to the MDNRE property.	
4 e.	Placed geotextile material in swale along the east side of Site adjacent to the MDNRE property in preparation for geoweb installation.	
4 f.	Began installation of geoweb material at southeast corner of Site; filled anchor trench portion with MDOT 22A material.	
4 g.	Installed additional silt fence near swale outlet along northern MDNRE property and secured straw bales	
4 h.	The Site was shutdown on Monday, 10/25 and limited Site work occurred on Tuesday, 10/26. The Site received approximately 2.1-inches of rain on Sunday night 10/24 and 0.75-inches of rain on Tuesday morning (10/26).	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> repair erosion areas across Site; continue installation of geoweb material; continue topsoil placement; repair hole in liner (Mid America scheduled to be on-Site Friday 10/29 or Saturday 10/30).	CRA Services
5 b.	<b>Upcoming Tasks:</b> installation of upper stone layer for toe drains around Site; installation of turf reinforcement map, install geonet discharge stone layer around Site; construct swale outfalls	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> None.	
6 b.	<b>MDNRE:</b> The MDNRE inquired as to whether the groundwater well installation will be incorporating the changes that were discussed between the U.S. EPA and the MDNRE. CRA replied yes that the changes were being incorporated. The MDNRE inquired about the parameters for vertical aquifer sampling (VAS) analysis. CRA replied that samples would be analyzed for VOCs, PCBs, and metals.	
6 c.	<b>CRA:</b> CRA reported that due to the recent heavy rain events, approximately 1-2 yards of general fill material washed into the Kalamazoo River at the location of the swale outlet along the MDNRE property boundary. The material is on the bank of the river near the rip/rap stone. CRA proposed to excavate out as much of material as possible without disturbing the sediments or river bank and anticipated a minimal turbidity cloud due to the current rapid flow rate of the river. CH2M Hill inquired that what CRA proposed would keep the bulk of the material out of the river? CRA stated yes. The U.S. EPA indicated that they would contact Jim Saric, the U.S. EPA	CRA



Item	Description	Action By
6 d.	project manager for the Kalamazoo River, and requested that a photolog of the current erosion conditions be distributed to all parties. The MDNRE indicated that they would check with resources on their end also.	
6 e.	CRA stated that the recent rain events have pushed back the schedule somewhat and they would like to move the date for the pre-final construction meeting to the week of November 15 <sup>th</sup> . Based on discussion amongst the parties, the pre-final construction meeting is scheduled for Tuesday November 16, 2010 at 10:00am. CRA will send out a meeting request for this meeting.	CRA
6 f.	CRA stated that they would like to use a mobile lab for the groundwater well installation VAS analysis, but there are no mobile labs included in the Quality Assurance Project Plan (QAPP). CRA inquired as to whether a mobile lab could still be used since the VAS samples collected are not for delineating or verification of clean-up, but for the purposes of identifying a screen interval for well installation. The U.S. EPA indicated that they would need to check on whether a QAPP amendment would be required. CH2M Hill suggested that the U.S. EPA have a conference call between QAS and CRA to determine the requirements.	U.S. EPA
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will provide a photolog of the current erosion conditions at the Site.	CRA
7 b.	CRA will send out a meeting request for the pre-final construction meeting scheduled for Tuesday November 16, 2010 at 10:00 am.	CRA
7 c.	The U.S. EPA will determine whether a conference call between QAS and CRA is warranted in determining whether a QAPP amendment is needed for using a mobile lab (for VAS analysis) that is not included in the current QAPP.	U.S. EPA
7 d.	CRA will send out hard copies of the last four monthly progress reports.	CRA
7 e.	CRA will submit a memo or letter documenting the use of the 20-mil LLDPE material for extension of the stormwater management flap.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: November 2, , 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## WEEKLY MEETING MINUTES

Reference No. 056393

PROJECT: 12<sup>th</sup> Street Landfill Operable Unit No. 4 - Remedial Action Implementation  
481 12th Street, Plainwell MI 49080 056393  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

LOCATION: Site Office/Conference Call DATE: November 3, 2010 TIME: 10:30 AM

### Participants:

Michael Berkoff, U.S. EPA	Kristi Zakrzewski, MDNRE	Jeff Keiser, CH2M Hill	Scott Hutsell, CH2M Hill
Grant Koster, CH2M Hill	Richard Gay, Weyerhaeuser	Greg Carli, CRA	Rick Hoekstra, CRA
Hassan Gilani, Inspec-Sol	Renee Pionk, CRA	Jodie Dembowski, CRA Services	Aaron Stadnyk, CRA

### Distribution:

To all participants listed above.	Pete Lewis, CRA Services		
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<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>1</b>	<b><u>MEETING AGENDA</u></b>	
1 a.	Health and Safety	
1 b.	Site Security	
1 c.	Progress of Work	
1 d.	Progress Schedule	
1 e.	Project Issues	
1 f.	Action Items	
1 g.	Administrative Issues	
<b>2</b>	<b><u>HEALTH AND SAFETY</u></b>	
2 a.	Daily tailgate safety meetings are being conducted.	CRA Services
2 b.	The PPE for the Site is Level D and dust is controlled by use of the water truck on an as needed basis.	
<b>3</b>	<b><u>SITE SECURITY</u></b>	
3 a.	None.	



<i>Item</i>	<i>Description</i>	<i>Action By</i>
<b>4</b>	<b><u>PROGRESS OF WORK</u></b>	
4 a.	Repaired erosion areas on east side of Site and removed general fill sediment from constructed swales located along the western and northern MDNRE property boundaries. Began repair of erosion channels along the west side of Site.	CRA Services
4 b.	Removed general fill material from wash-out into Kalamazoo River. Approximately five to six cubic yards of material removed. Photolog of work submitted to respective parties via email on 11/3/10.	
4 c.	Installed geoweb material in swales along the western and northern MDNRE property boundaries.	
4 d.	Placed topsoil along the west upper slope and upper slopes along the western and northern MDNRE property boundaries. Also placed topsoil on north and northeast top of landfill.	
4 e.	Placement of topsoil in swale area located along the northern MDNRE property boundary in preparation for installation of turf reinforcement mat.	
4 f.	Liner hole near former temporary access road area repaired by Mid America Lining Company on Saturday 10/30/10.	
4 g.	Site visit with representatives from the MDNRE Superfund Section and the Kalamazoo District Office – Soil Erosion and Sedimentation Control (SESC) to review erosion damage and wash-out into Kalamazoo river.	
4 h.	Extended liner flap and geocomposite material, placed general fill on geocomposite material, and installed bottom stone layer within geotextile for toe drain in the area of the former temporary access road near the southeast corner of Site.	
<b>5</b>	<b><u>PROJECT SCHEDULE</u></b>	
5 a.	<b>Remainder of week:</b> Continue topsoil placement; excavate swale channels on south and west sides of Site; continue installation of geoweb material; begin installation of upper stone layer for toe drains.	CRA Services
5 b.	<b>Upcoming Tasks:</b> Mobilization of drilling crew to Site for vertical aquifer sampling (VAS) and monitoring well installation; install geonet discharge stone layer around Site; construct swale outfalls; seeding and installation of turf reinforcement mat.	
<b>6</b>	<b><u>PROJECT ISSUES</u></b>	
6 a.	<b>U.S. EPA:</b> The U.S. EPA inquired about the end date for work this season. CRA Services responded that the work should be completed before November 25, 2010 (Thanksgiving Holiday), dependent on weather, and they are waiting for analytical data for a second source of topsoil. CRA responded that there will be two mobilizations for installation of the deep monitoring wells due to a two to three week laboratory turn-around-time. The samples will be submitted to Columbia Analytical Services (CAS) and results are expected around the first week of December. After receiving the analytical data, the deep monitoring wells are anticipated to be installed the week of	CRA



Item	Description	Action By
	December 22, 2010. The drillers are scheduled to mobilize to the Site on Monday, November 8, 2010 and it is anticipate that drilling operations will begin by noon. CRA indicated that they are seeking to finalize the locations for wells MW-109 and MW-108 located on the east side of the Site based on comments from the MDNRE. CRA will mark-up Drawing C-07 with the proposed new well locations for MW-109 and MW-108 and submit for approval by MDNRE.	
6 b.	<b>MDNRE:</b> The MDNRE inquired about the long term plan for SESC measures over the winter and during the spring snow melt with regards to prevention of discharge of materials to the river and/or wetlands. CRA responded that they are reviewing current SESC measures contained within the design and will further discuss at next week's meeting.	CRA
6 c.	<b>CRA:</b> None.	
6 d.	<b>CRA Services:</b> None.	
7	<b><u>ACTION ITEMS</u></b>	
7 a.	CRA will discuss long term SESC measures at the November 10, 2010 weekly meeting.	CRA
7 b.	CRA will mark-up Drawing C-07 with the proposed new well locations for MW-109 and MW-108 and submit for approval by the MDNRE	CRA
7 c.	CRA will submit a memo or letter documenting the use of the 20-mil LLDPE material for extension of the stormwater management flap.	CRA
8	<b><u>ADMINISTRATIVE ISSUES</u></b>	
8 a.	None.	

☐ Attachments: None

Prepared By: Renee Pionk - CRA Date Issued: November 9, 2010

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 3 days of the date issued, we will assume that the following interpretation or description is complete and accurate.



## MEETING MINUTES

Reference No. 056393-07-0007

PROJECT: 12<sup>th</sup> Street Landfill Site, Operable Unit No. 4  
Allied Paper/Portage Creek/Kalamazoo River Superfund Site

CLIENT: Weyerhaeuser NR Company

RE: Final Construction Completion Inspection, Remedial Action Implementation

LOCATION: 481 12<sup>th</sup> Street, Plainwell, MI DATE: September 29, 2011 TIME: 2:30 p.m.

### Participants:

Michael Berkoff, USEPA	Kristi Zakrzewski, MDEQ	Richard Gay, Weyerhaeuser
Scott Hutsell, CH2M Hill	Amanda Batts, CH2M Hill	Greg Carli, CRA
Jodie Dembowski, CRA (follow up discussions only)		

### Distribution:

<input checked="" type="checkbox"/> File	<input checked="" type="checkbox"/> Participants	Aaron Stadnyk, CRA	Rick Hoekstra, CRA	
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Item	Description	Action By
1	Sign In/Health & Safety Moment <ul style="list-style-type: none"><li>Participants signed meeting sign-in sheet (copy provided in Attachment A)</li><li>CRA discussed safety protocols for Site walk/inspection</li></ul>	CRA
2	Landfill Site Walk/Inspection <ul style="list-style-type: none"><li>Participants completed a walk of the entire landfill including the landfill perimeter, top, and storm water draining systems.</li><li>In general, the landfill cover system and storm water drainage systems are in good condition after the first growing season; however, some repairs/reseeding is necessary to ensure the cover system continues to perform as designed. CRA noted that the top of the landfill was cut once during the growing season. The following observations/areas requiring corrective measures were noted:<ul style="list-style-type: none"><li>a) North side toward river, section of exposed soil requires reseeded. This area was a repair area from the spring where seeding has not been established over the summer and will be reseeded.</li><li>b) Undercutting of the geotextile was observed in some locations along the base of the landfill starting along the north side and continuing around the landfill to the west side. These areas require repair and reseeded.</li><li>c) Exposed geotextile was observed in several locations of the landfill, particularly along edges of the drainage swales. These areas require additional cover and reseeded.</li></ul></li></ul>	





<i>Item</i>	<i>Description</i>	<i>Action By</i>
	<ul style="list-style-type: none"> <li>d) The two piles of topsoil located on the top of the landfill can be spread out in the area near the gate and reseeded.</li> <li>e) It was noted that sufficient vegetative cover has been established such that the silt fencing around the landfill can be removed.</li> <li>f) Straw bails used as check dams in drainage swales during construction should be removed, with the exception of the straw bails along the south side of the landfill (near 12<sup>th</sup> Street) can remain in place provided the rebar is removed.</li> </ul>	
3	<p>Post Site Walk/Inspection Discussion</p> <ul style="list-style-type: none"> <li>• Due to weather conditions, participants reconvened at the Plainwell Mill for further discussion. The action items/punch list items noted above were reviewed.</li> </ul>	
4	<p>Site Signs and Permanent Markers</p> <ul style="list-style-type: none"> <li>• The requirements for post RA Site signage and permanent markers were discussed.</li> <li>• Weyerhaeuser will propose language and design details for Site signs to be placed every 200 feet around the perimeter of the landfill for approval by USEPA and MDEQ.</li> <li>• MDEQ will consult internally on specific requirements for permanent markers and what has been approved on other projects and report back to participants.</li> <li>• USEPA to review permanent markers required at other OU's related to the Site and report back to participants.</li> </ul>	<p>CRA</p> <p>MDEQ</p> <p>USEPA</p>
5	<p>April 2011 Groundwater Sampling Data and OM&amp;M Plan</p> <ul style="list-style-type: none"> <li>• CRA's memo summarizing the April 2011 groundwater data was briefly discussed. USEPA and MDEQ would like see further data for the Site. CRA to distribute data validation memo (provided in Attachment B to these minutes).</li> <li>• In future, it is requested that the drinking water criteria used for the data screening identify which criteria are aesthetic based vs. human health based.</li> <li>• MDEQ has completed their review of the OM&amp;M Plan; however, USEPA requires additional time to complete their review and will issue comments shortly.</li> <li>• Participants discussed the value of conducting additional quarterly monitoring of the groundwater while the OM&amp;M Plan review and approval continues. It was agreed that quarterly monitoring should begin as soon as possible. Weyerhaeuser to submit a letter to USEPA requesting approval to move forward with groundwater monitoring as outlined in the May 2011 version of the OM&amp;M Plan until such time that the OM&amp;M Plan is approved.</li> </ul>	<p>CRA</p> <p>USEPA</p> <p>Weyerhaeuser</p>



☒ Attachments: Attachment A - Meeting Sign-In Sheet  
Attachment B - April 2011 Groundwater Data Validation Memorandum

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Prepared By: Greg Carli Date Issued: October 7, 2011

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 7 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

5-23-07

12TH STREET LANDFILL SITE

09/29/11

FINAL CERTIFICATION MEETING SIGN IN SHEET

NAME	REPRESENTING	PHONE / EMAIL
Greg Corti	CAA for Weyco	716-274-150 greg@ccaa-weyco.com
Richard Gay	Weyerhaeuser	501 624-8554 richard.gay@weyerhaeuser.com
Amanda Botts	CH2M Hill	352-219-8310 amanda.botts@ch2m.com
Michael Berkoff	EPA	312/353-8983 berkoff.michael@epa.gov
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## MEMORANDUM

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TO: Greg Carli

FROM: Paul Wiseman/tl/2/Det

RE: Data Quality Assessment and Full Validation  
Groundwater Monitoring – April, 2011  
12<sup>th</sup> Street Landfill, Ostego Township, Michigan

REF. NO.: 56393

DATE: October 5, 2011

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The following details a quality assessment and validation of the analytical data resulting from the April 6, 7, and 8, 2011, collection of 15 water samples, and four (4) quality control samples from the 12<sup>th</sup> Street Landfill Site in Ostego Township, Michigan. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed with the methodologies presented in Table 2.

The quality control criteria used to assess the data were established by the methods and the quality assurance project plan (QAPP). Application of quality assurance criteria was consistent with following guidance documents:

- i. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999;
- ii. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Review", EPA-540/R-94/013, February 1994.

These guidelines are collectively referred to as "NFGs" in this Memorandum.

### Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOC), polychlorinated biphenyls (PCB) and inorganics below the laboratory's report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J", these concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum.

### Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in Table 2.

The samples were shipped and maintained in accordance with the sample preservation requirements.

Gas Chromatography/Mass Spectrometer (GC/MS) - Tuning and Mass Calibration (Instrument Performance Check) - Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each GC/MS instrument used for volatile organic compounds (VOC) analysis was checked at the beginning of each 12-hour period using bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the NFGs before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the VOC analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration - Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

- i. GC/MS (all compounds) - must meet a minimum mean relative response factor (RRF) of 0.05;
- ii. GC/MS (all compounds) - the percent relative standard deviation (RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.99 if quadratic equation calibration curves are used; and
- iii. GC (all compounds using an average for multi-response compounds) - the percent RSD must not exceed 20 percent or a correlation coefficient of 0.995 when linear regression calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity with the exception of the qualified samples presented in Table 3.

Continuing Calibration - Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours for GC/MS analyses and every 10 samples by GC. The following criteria are employed to evaluate the continuing calibration data:

- i. GC/MS (all compounds) - must meet a minimum mean RRF of 0.05;
- ii. GC/MS (all compounds) - the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent;
- iii. GC/MS (compounds determined by quadratic curve) - the percent drift between the true value and the continuing calibration value must not exceed 25 percent;
- iv. GC (all compounds using average for multi-response compounds) - the percent difference between mean initial calibration factor and the continuing calibration factor must not exceed 15 percent; and
- v. GC (compounds determined by linear regression) - the percent drift between the true value and the continuing calibration value must not exceed 15 percent.

Continuing Calibration – Organic Analyses (Continued)

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response and sensitivity with the exception of the qualified samples presented in Table 4.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) –  
Mass Calibration and Resolution Checks – Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

- i. Analyze tuning solution a minimum of four times with a percent RSD of less than or equal to five for the analytes contained in the tuning solution; and
- ii. The mass resolution must be within 0.1 amu of the true value over the analytical range

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Inorganic Analyses

The initial calibration includes a blank and at least one standard for inductively coupled plasma (ICP) and ICP/MS to establish the analytical curve. Mercury analysis by cold vapor atomic absorption spectroscopy (CVAA) and cyanide analysis by spectrophotometry requires the analysis of a calibration blank and a minimum of five standards to establish the calibration curve. The coefficient of variation for calibration curves must exceed 0.995.

Initial calibration is verified with an initial calibration verification (ICV) standard which must recover within 90 to 110 percent for metals by ICP and ICP/MS, 80 to 120 percent for mercury by CVAA and 85 to 115 percent for cyanide by spectrophotometry.

A review of the laboratory data showed that the inorganic initial calibration curves and ICVs were analyzed at the appropriate frequency and were within the acceptance criteria.

Continuing Calibration – Inorganic Analyses

Continuing calibration verification (CCV) standards are analyzed at method specified frequency (one every 10 samples). The CCVs must meet the percent recovery control limits specified above for the ICVs. Criteria for inorganic analyses are the same criteria as used for assessing the initial calibration data.

A review of the laboratory data showed that CCVs were analyzed at the appropriate frequency and the data were within the acceptance criteria.

### Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 5 should be qualified due to laboratory contamination. The remaining method blank samples did not contain target compounds with concentrations that impacted the investigative samples.

### Laboratory Blank Samples - Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICB) and continuing calibration blanks (CCB) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every 10 samples and target analytes should be non-detect.

Several ICB and CCBs were reported with detectable concentrations of target analytes. The samples presented in Table 6 should be qualified due to ICB and CCB contamination above the laboratory MDLs. The remaining ICB and CCBs did not contain elements with concentrations that impacted the investigative samples.

### Surrogate Compounds - Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples that could be evaluated.

### Matrix Spike/Matrix Spike Duplicate Analyses

To assess the long term accuracy and precision of the analytical methods on various matrices, matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods or the laboratory and the NFG. The samples selected for MS/MSD analysis are identified in Table 1.

The MS/MSD percent recoveries and associated RPD acceptance criteria were met in the sample analyses.

### Laboratory Control Sample Analyses

The laboratory control sample (LCS) analyses serves as a monitor of the overall performance in all steps of the sample analysis and is analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

Laboratory Control Sample Analyses (Continued)

The LCS percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved.

Inductively Coupled Plasma (ICP) Interference Check Sample Analysis - Inorganic Analyses

To verify that proper inter-element and background correction factors had been established by the laboratory for metals analyses, the ICP interference check samples (ICS) are analyzed. The ICSs are evaluated against recovery control limits of 80 to 120 percent.

The ICS analysis results were evaluated for all samples and were within the control limits.

Internal Standard Summaries - Organic Analyses

To correct for variability in the GC/MS response and sensitivity, internal standard (IS) compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for VOC analyses were monitored using IS peak area and retention time (RT) data. The IS peak areas and RTs of the samples are required to meet the following criteria:

- i. IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and
- ii. The RT of the IS must not vary by more than plus or minus 30 seconds from the associated continuing calibration standard.

A review of the VOC internal standard data showed that the IS area counts and retention time data were within the acceptance criteria.

Internal Standard Summaries - Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, internal standards (IS) are added to all samples. All results are calculated as a ratio of the IS response to the response of the sample. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

- i. The IS intensities in samples must recover between 30 and 120 percent of the true value; and
- ii. The IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 60 and 125 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

Serial Dilution - Inorganic Analyses

The percent difference (D) between a serial dilution of a sample for each matrix was monitored to determine physical or chemical interference. A minimum of one sample per 20 investigative samples is



Serial Dilution – Inorganic Analyses (Continued)

analyzed at a five-fold dilution. The serial dilution results must agree within 10 percent D of the original results for samples with detected concentrations greater than 50 times the instrument detection limit.

The percent D acceptance criteria was met with the exception of the qualified samples presented Table 7.

Duplicate Sample Analyses – Inorganic Analyses

The laboratory precision of matrix-specific metals methods was monitored by the analyses of duplicate samples.

The duplicate relative percent difference (RPD), were within the acceptance criteria.

Post Digestion Spike Analyses – Inorganic Analyses

At least one spiked (pre-digestion) sample is prepared and analyzed for each analytical batch of metals. When the pre-digestion spike recovery falls outside of the control limits and the sample result is greater than four times the spike added, a post digestion spike is performed for those analytes that do not meet the specified criteria.

The post digestion spike results were evaluated and were within the control limits.

Contract Required Detection Limit (CRDL) Analyses – Inorganic Analyses

The instrument calibration near the Contract Required Detection Limit (CRDL) must be verified for each analyte reported. An ICP standard solution at the CRDL (CRI) is evaluated against the control limits provided.

The CRI analysis results were evaluated for all samples and were within the control limits.

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The sample(s) identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. The sample(s) identified in Table 1 were reviewed. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of two (2) field duplicate sample sets and two (2) trip blank samples.

Field Duplicate Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one or two times the RL value for water and soil samples, respectively.

Table 8 presents the RPDs of detected analytes in duplicate sample sets with qualifiers. The data indicate that an adequate level of precision was achieved for the sampling event.

Trip Blank Samples

To monitor potential cross-contamination of VOC during sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

No target analytes were reported as detected in the trip blank samples that impacted the investigative samples.

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of the following:

- VOC data were rejected in a number of samples due to initial and continuing calibration violation.

TABLE 1  
SAMPLE COLLECTION AND ANALYSIS SUMMARY  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

							Analysis/Parameters		
Sample Identification	Location	Matrix	QC Samples	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	TCL VOC	TCL PCB	Site TAL Metals	
CRA SDG No.: 52	CAS Lot No.: K1103015								
GW-56393-040611-EV-001	101D	water	MS/MSD-P	4/6/2011	11:55:00 AM	X	X	X	
GW-56393-040611-EV-002	101S	water		4/6/2011	1:15:00 PM	X	X	X	
GW-56393-040611-EV-003	101S	water	DUP (002)	4/6/2011	1:25:00 PM	X	X	X	
GW-56393-040611-EV-004	109D	water		4/6/2011	2:30:00 PM	X	X	X	
TB3-56393-040611	--	water	Trip Blank	4/6/2011	11:59:00 PM	X			
CRA SDG No.: 53	CAS Lot No.: K1103103								
GW-56393-040711-EV-005	108S	water	MS/MSD-P	4/7/2011	10:55:00 AM	X	X	X	
GW-56393-040711-EV-006	108D	water		4/7/2011	9:25:00 AM	X	X	X	
GW-56393-040711-EV-007	107S	water		4/7/2011	10:05:00 AM	X	X	X	
GW-56393-040711-EV-008	106S	water		4/7/2011	11:55:00 AM	X	X	X	
GW-56393-040711-EV-009	106D	water		4/7/2011	12:50:00 PM	X	X	X	
GW-56393-040711-EV-010	105S	water		4/7/2011	1:45:00 PM	X	X	X	
GW-56393-040711-EV-011	105D	water		4/7/2011	2:35:00 PM	X	X	X	
GW-56393-040711-EV-012	104S	water		4/7/2011	3:30:00 PM	X	X	X	
GW-56393-040711-EV-013	104D	water		4/7/2011	4:25:00 PM	X	X	X	
GW-56393-040711-EV-014	103D	water		4/7/2011	5:05:00 PM	X	X	X	
GW-56393-040811-EV-015	102D	water		4/8/2011	9:10:00 AM	X	X	X	
GW-56393-040811-EV-016	102D	water	DUP (015)	4/8/2011	10:05:00 AM	X	X	X	
GW-56393-040811-EV-017	102S	water		4/8/2011	10:15:00 AM	X	X	X	
Trip Blank	--	water	Trip Blank	4/7/2011	11:59:00 PM	X			

**Notes:**

DUP - Field Duplicate Sample of sample in parenthesis  
MS/MSD-P - Matrix Spike/Matrix Spike Duplicate (Partial parameters)  
PCB - Polychlorinated biphenyls  
QC - Quality Control  
TAL - Target Analyte List  
TCL - Target Compound List  
VOC - Volatile Organic Compounds

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Method <sup>1</sup></i>	<i>Matrix</i>	<i>Holding Time</i>	<i>Preservation</i>
TCL VOC	SW-846 8260	Water	- 14 days from sample collection to completion of analysis.	pH < 2 and Iced, 4 ± 2° C
TCL PCB	SW-846 8082	Water	- 7 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
Site TAL Metals		Water	- 180 days from sample collection to completion of analysis	pH < 2 and Iced, 4 ± 2° C
Aluminum	EPA-WW 200.8			
Antimony	EPA-WW 200.8			
Arsenic	EPA-WW 200.8			
Barium	EPA-WW 200.8			
Beryllium	EPA-WW 200.8			
Cadmium	EPA-WW 200.8			
Chromium	EPA-WW 200.8			
Cobalt	EPA-WW 200.8			
Copper	EPA-WW 200.8			
Iron	SW-846 6010B			
Lead	EPA-WW 200.8			
Magnesium	SW-846 6010B			
Manganese	EPA-WW 200.8			
Nickel	EPA-WW 200.8			
Selenium	EPA-WW 200.8			
Silver	EPA-WW 200.8			
Sodium	SW-846 6010B			
Thallium	EPA-WW 200.8			
Vanadium	EPA-WW 200.8			
Zinc	EPA-WW 200.8			
Mercury	SW-846 7470A	Water	- 28 days from sample collection to completion of analysis	pH < 2 and Iced, 4 ± 2° C

#### Notes

<sup>1</sup> Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986  
EPA-WW - "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, Revised March 1983.

PCB - Polychlorinated biphenyls

TAL - Target Analyte List

TCL - Target Compound List

VOC - Volatile Organic Compounds

TABLE 3

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VIOLATION OF INITIAL CALIBRATION ACCEPTANCE CRITERIA  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>RRF</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL VOC	2-Butanone	2/9/2010	0.0141	GW-56393-040611-EV-001	20 R	µg/L
				GW-56393-040611-EV-002	20 R	µg/L
				GW-56393-040611-EV-003	20 R	µg/L
				GW-56393-040611-EV-004	20 R	µg/L
TCL VOC	2-Butanone	3/31/2011	0.0122	GW-56393-040711-EV-005	20 R	µg/L
				GW-56393-040711-EV-006	20 R	µg/L
				GW-56393-040711-EV-007	20 R	µg/L
				GW-56393-040711-EV-008	20 R	µg/L
				GW-56393-040711-EV-009	20 R	µg/L
				GW-56393-040711-EV-010	20 R	µg/L
				GW-56393-040711-EV-011	20 R	µg/L
				GW-56393-040711-EV-012	20 R	µg/L
				GW-56393-040711-EV-013	20 R	µg/L
				GW-56393-040711-EV-014	20 R	µg/L
				GW-56393-040811-EV-015	20 R	µg/L
				GW-56393-040811-EV-016	20 R	µg/L
				GW-56393-040811-EV-017	20 R	µg/L
TCL VOC	4-Methyl-2-pentanone	2/9/2011	0.0461	GW-56393-040611-EV-001	20 R	µg/L
				GW-56393-040611-EV-002	20 R	µg/L
				GW-56393-040611-EV-003	20 R	µg/L
				GW-56393-040611-EV-004	20 R	µg/L
TCL VOC	4-Methyl-2-pentanone	3/31/2011	0.0152	GW-56393-040711-EV-005	20 R	µg/L
				GW-56393-040711-EV-006	20 R	µg/L
				GW-56393-040711-EV-007	20 R	µg/L
				GW-56393-040711-EV-008	20 R	µg/L
				GW-56393-040711-EV-009	20 R	µg/L
				GW-56393-040711-EV-010	20 R	µg/L
				GW-56393-040711-EV-011	20 R	µg/L
				GW-56393-040711-EV-012	20 R	µg/L
				GW-56393-040711-EV-013	20 R	µg/L
				GW-56393-040811-EV-015	20 R	µg/L

TABLE 3

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VIOLATION OF INITIAL CALIBRATION ACCEPTANCE CRITERIA  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>RRF</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL VOC	4-Methyl-2-pentanone	3/31/2011	0.0152	GW-56393-040811-EV-016	20 R	µg/L
				GW-56393-040811-EV-017	20 R	µg/L
TCL VOC	2-Hexanone	2/9/2011	0.0385	GW-56393-040611-EV-001	20 R	µg/L
				GW-56393-040611-EV-002	20 R	µg/L
				GW-56393-040611-EV-003	20 R	µg/L
				GW-56393-040611-EV-004	20 R	µg/L

Notes:

R - Rejected  
RRF - Relative Response Factor  
TCL - Target Compound List  
VOC - Volatile Organic Compounds

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO VIOLATION OF CONTINUING CALIBRATION REQUIREMENTS  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>RRF</i>	<i>% Recovery or %D</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL VOC	1,2-Dibromo-3-chloropropane	2/9/2011	0.0494	-----	GW-56393-040611-EV-001	2.0 R	µg/L
					GW-56393-040611-EV-002	2.0 R	µg/L
					GW-56393-040611-EV-003	2.0 R	µg/L
					GW-56393-040611-EV-004	2.0 R	µg/L
TCL VOC	Bromomethane	2/9/2011	-----	-27	GW-56393-040611-EV-001	0.50 UJ	µg/L
					GW-56393-040611-EV-002	0.50 UJ	µg/L
					GW-56393-040611-EV-003	0.50 UJ	µg/L
					GW-56393-040611-EV-004	0.50 UJ	µg/L
TCL VOC	Dichlorodifluoromethane	2/9/2011	-----	-27	GW-56393-040611-EV-001	0.50 UJ	µg/L
					GW-56393-040611-EV-002	0.50 UJ	µg/L
					GW-56393-040611-EV-003	0.50 UJ	µg/L
					GW-56393-040611-EV-004	0.50 UJ	µg/L
TCL VOC	Dichlorodifluoromethane	3/31/2011	-----	42	GW-56393-040711-EV-005	0.50 UJ	µg/L
					GW-56393-040711-EV-006	0.50 UJ	µg/L
					GW-56393-040711-EV-007	0.50 UJ	µg/L
					GW-56393-040711-EV-008	0.50 UJ	µg/L
					GW-56393-040711-EV-009	0.50 UJ	µg/L
					GW-56393-040711-EV-010	0.50 UJ	µg/L
					GW-56393-040711-EV-011	0.50 UJ	µg/L
					GW-56393-040711-EV-012	0.50 UJ	µg/L
					GW-56393-040711-EV-013	0.50 UJ	µg/L
					GW-56393-040711-EV-014	0.50 UJ	µg/L
					GW-56393-040811-EV-015	0.50 UJ	µg/L
					GW-56393-040811-EV-016	0.50 UJ	µg/L
					GW-56393-040811-EV-017	0.50 UJ	µg/L

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO VIOLATION OF CONTINUING CALIBRATION REQUIREMENTS  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Calibration Date</i>	<i>RRF</i>	<i>% Recovery or %D</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL VOC	Vinyl chloride	3/31/2011	----	-27	GW-56393-040711-EV-005	0.50 UJ	µg/L
					GW-56393-040711-EV-006	0.50 UJ	µg/L
					GW-56393-040711-EV-007	0.50 UJ	µg/L
					GW-56393-040711-EV-008	0.50 UJ	µg/L
					GW-56393-040711-EV-009	0.50 UJ	µg/L
					GW-56393-040711-EV-010	0.50 UJ	µg/L
					GW-56393-040711-EV-011	0.50 UJ	µg/L
					GW-56393-040711-EV-012	0.50 UJ	µg/L
					GW-56393-040711-EV-013	0.50 UJ	µg/L
					GW-56393-040711-EV-014	0.50 UJ	µg/L
					GW-56393-040811-EV-015	0.50 UJ	µg/L
					GW-56393-040811-EV-016	0.50 UJ	µg/L
					GW-56393-040811-EV-017	0.50 UJ	µg/L

Notes:

UJ - Non-detect with an Estimated Report Limit

R - Rejected

RRF - Relative Response Factor

%D - Percent Difference

TCL - Target Compound List

VOC - Volatile Organic Compounds



TABLE 5

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Analysis Date</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
TCL VOC	Benzene	4/12/2011	0.070 U	GW-56393-040711-EV-005	0.50 U	µg/L
				GW-56393-040711-EV-006	0.50 U	µg/L
				GW-56393-040711-EV-007	0.50 U	µg/L
				GW-56393-040711-EV-008	0.50 U	µg/L
				GW-56393-040711-EV-009	0.50 U	µg/L
				GW-56393-040711-EV-010	0.50 U	µg/L
				GW-56393-040711-EV-011	0.50 U	µg/L
				GW-56393-040711-EV-012	0.50 U	µg/L
				GW-56393-040711-EV-013	0.50 U	µg/L
				GW-56393-040711-EV-014	0.50 U	µg/L
				GW-56393-040811-EV-015	0.50 U	µg/L
				GW-56393-040811-EV-016	0.50 U	µg/L
				GW-56393-040811-EV-017	0.50 U	µg/L
Site TAL Metals	Chromium	5/3/2011	0.07 U	GW-56393-040711-EV-006	0.20 U	µg/L
				GW-56393-040711-EV-007	0.22 U	µg/L
				GW-56393-040711-EV-010	0.24 U	µg/L
				GW-56393-040711-EV-011	0.22 U	µg/L
				GW-56393-040711-EV-012	0.35 U	µg/L
				GW-56393-040711-EV-014	0.29 U	µg/L
				GW-56393-040811-EV-015	0.26 U	µg/L
				GW-56393-040811-EV-016	0.31 U	µg/L
				GW-56393-040811-EV-017	0.34 U	µg/L

Notes:

U - Qualified as Not Detected at the report limit

TAL - Target Analyte List

TCL - Target Compound List

VOC - Volatile Organic Compounds

TABLE 6

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO LABORATORY BLANK CONTAMINATION  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Analysis Date</i>	<i>Blank Result</i>	<i>Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
Site TAL Metals	Antimony	5/3/2011	0.030J	GW-56393-040711-EV-005	0.07 U	µg/L
				GW-56393-040711-EV-006	0.08 U	µg/L
				GW-56393-040711-EV-007	0.06 U	µg/L
				GW-56393-040711-EV-008	0.11 U	µg/L
				GW-56393-040711-EV-010	0.05 U	µg/L
				GW-56393-040711-EV-011	0.05 U	µg/L
				GW-56393-040711-EV-012	0.05 U	µg/L
				GW-56393-040711-EV-013	0.07 U	µg/L
				GW-56393-040711-EV-014	0.05 U	µg/L
				GW-56393-040811-EV-015	0.05 U	µg/L
				GW-56393-040811-EV-016	0.05 U	µg/L
				GW-56393-040811-EV-017	0.05 U	µg/L
Site TAL Metals	Silver	5/3/2011	0.008J	GW-56393-040711-EV-005	0.020 U	µg/L
				GW-56393-040711-EV-006	0.020 U	µg/L
				GW-56393-040711-EV-007	0.020 U	µg/L
				GW-56393-040711-EV-008	0.020 U	µg/L
Site TAL Metals	Thallium	5/3/2011	0.003J	GW-56393-040711-EV-005	0.020 U	µg/L
				GW-56393-040711-EV-010	0.020 U	µg/L
				GW-56393-040711-EV-011	0.020 U	µg/L
				GW-56393-040711-EV-012	0.020 U	µg/L
				GW-56393-040711-EV-013	0.020 U	µg/L
				GW-56393-040711-EV-014	0.020 U	µg/L
				GW-56393-040811-EV-015	0.020 U	µg/L

Notes:

U - Qualified as Not Detected at the report limit

TAL - Target Analyte List

TABLE 7

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VIOLATION OF ICP SERIAL DILUTION CONTROL LIMITS  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Serial Dilution Sample ID</i>	<i>%D</i>	<i>Associated Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
Site TAL Metals	Iron	GW-56393-040711-EV-005	12.1	GW-56393-040711-EV-005	275 J	ug/L
				GW-56393-040711-EV-006	240 J	ug/L
				GW-56393-040711-EV-007	830 J	ug/L
				GW-56393-040711-EV-008	20800 J	ug/L
				GW-56393-040711-EV-009	14.9 J	ug/L
				GW-56393-040711-EV-010	419 J	ug/L
				GW-56393-040711-EV-011	16.8 J	ug/L
				GW-56393-040711-EV-012	474 J	ug/L
				GW-56393-040711-EV-013	34.4 J	ug/L
				GW-56393-040711-EV-014	19.6 J	ug/L
				GW-56393-040811-EV-015	171 J	ug/L
				GW-56393-040811-EV-016	430 J	ug/L
				GW-56393-040811-EV-017	426 J	ug/L

Notes:

J - Estimated Concentration

%D - Percent Difference

TAL - Target Analyte List

TABLE 8  
SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS  
GROUNDWATER MONITORING - APRIL 2011  
12 TH STREET LANDFILL  
OTSEGO TOWNSHIP, MICHIGAN

<i>Parameter</i>	<i>Analyte</i>	<i>Criteria</i>	<i>RPD/ Diff</i>	<i>Sample ID</i>	<i>Qualified Result</i>	<i>Field Duplicate Sample ID</i>	<i>Qualified Result</i>	<i>Units</i>
Site TAL Metals	Cobalt	RPD	107	GW-56393-040811-EV-015	0.153 J	GW-56393-040811-EV-016	0.506 J	ug/L
Site TAL Metals	Manganese	RPD	194	GW-56393-040811-EV-015	8.35 J	GW-56393-040811-EV-016	577 J	ug/L

**Notes:**

J - Estimated Concentration  
RPD - Relative Percent Difference  
Diff - Difference  
TAL - Target Analyte List